NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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NOURSE, EATON & TOLMAN, PROPRIETORS. OFFICE....34 MERCHANTS' ROW. SIMON BROWN, EDITOR. FRED'K HOLBROOK, HENRY F. FRENCH, } ASSOCIAT EDITORS.

FARM WORK FOR APRIL.

"The lark sits high in the walnut tree,
And it rains, it rains, it rains;
A jolly philosopher sure is he,
While it rains, it rains, it rains;
Blithely he looks at the meadows below,
Where his nest will be when the grass blades grow.
And pours out his song in a liquid flow,
While it rains, it rains, it rains."

THE active season for the farmer opens with APRIL, when the varied labors that are to come before him through the months which are to supply his crops, demand especial attention. If a man of forecast and system, like a prudent general who perfects his plans before he enters the field of his campa.gn, he has mapped out his plans, and has them all at his command, so that men nor teams ever wait for him to decide what is to be done with this field or that.

APRIL brings a revivification of nature, and this inspires us all with new life, hope and ambition. The opening flower, springing grass, the lowing herds, and other cheerful voices of animated nature, all serve to kindle in us a new class of emotions of the most agreeable kind. The labor of the farmer leads him into the midst of these kindly influences, where he may meditate upon their connection with his labors, and, with his springing plants, rise rapidly towards heaven himself. In this pleasant field of labor, then, let us see what is to be done.

CLEAN SURROUNDINGS.—Nothing is more important than to make HOME pleasant and attractive, and the first step towards this, is to make its approaches clean. As soon as the snow is off, the frost out, and the surface settled, put the hoe and rake in use to gather up whatever rubbish may have accumulated about the buildings during the winter. In this work you will need a *short tooth rake*. When this is done, sweep the lawn, and issue a decree, that whosoever defiles it with sticks, chips, bits of paper, old rags, bones or egg shells, shall not only remove them instantly, but be fined a dime for each offence, or be posted on the walls of the house, as a—sloven!

Who ever approached a farm-house and found around the buildings a neat little lawn, with its velvet carpet of richest green, and *not a blemish upon it*, without thinking, if not saying, "This is the abode of neatness and tranquillity—the graces are here, let us enter and enjoy them?"

THE WOOD PILE.—Do not allow this to remain unhoused till midsummer. It is money at interest, under cover, where it can receive a daily airing. Out of doors, it is a blotch in the surroundings, unless neatly piled and covered with boards.

DROPPINGS IN MOWING FIELDS.—Where cattle fed on mowing grounds, last autumn, little heaps will be found, and unless scattered and broken to pieces will be uncomfortable in haying time. Broken, and dissolved by rains, they become valuable fertilizers. Close fall feeding, by the way, is a wretched policy—scarcely anything is more fatal to the grass; it is much like contiuually stripping a plant of its foliage, and expecting it to flourish. After grass is cut to be made into hay, the roots have sufficient strength left to throw out *new leaves*, and these, in turn, are wanted to invigorate the roots, and when the leaves are cropt off day after day, the roots are so weakened that they cannot withstand the drought of autumn or the cold of winter, and the grass "runs out," as it is called. Close fall feeding of mowing lands, is more costly than feeding the stock on hay and grain.

OVERHAUL MANURES.—If manure is to be spread upon the sward and plowed under, no mat-

ter how green and crude it is, and all overhauling will only impair its value for such a purpose. But if it is to be spread on sward land after it is plowed, it should be overhauled once or twice, and made as fine as possible, and then plowed under only two or three inches. If fine, it can be more evenly distributed over the field, and more conveniently and certainly got under the surface. The rains penetrate it more readily, and wash out its fertilizing properties and convey them to the roots of the plants. If fine, it comes in contact with a larger portion of the surrounding minerals, bringing them to act together, and thus furnish sustenance for the growing crops.

On the other hand, if it is coarse, it requires nearly double the labor to get it under the soil, and a considerable portion will be left on the surface, in the way of the hoe, and drying up so as to supply little to the plants that need it. The action alluded to in the preceding paragraph is also lost, which is an essential loss.

If, however, manure can be applied to stubble land in the fall, and plowed under six or eight inches, it may be put on in a crude state, and *we think there is no other way in which it can be applied with so much advantage.*

There is a little loss in overhauling manure heaps, in the escape of its ammonia, undoubtedly, but that loss is unimportant, compared with that of using it in a coarse condition, so that it cannot be intimately mingled with the soil.

FENCES.—So soon as the absence of frost will permit, make new, or repair old, fences, and do the work so thoroughly that no animal will be tempted to "commit a "breach of the peace." Animals may be educated to become unruly as well as humans, but with good fences and a reasonable pasturage, few will become "unruly." Such as are found to inherit the "original sin" should go to steaks and sirloins as soon as possible.

POACHING.—It used to be the practice—perhaps it is now with some farmers—to allow cattle to run over the mowing fields and through the orchards as soon as the snow left the ground. Was it a good practice? Why not? Will some one tell us?

THE OAT CROP.—On lands that are sufficiently dry, it is advisable to get in oats as early as possible, so that the work of seeding may be out of the way, and that the crop may be taken off the ground, and give the young grass opportunity to get thoroughly established before freezing weather.

DRAINING.—August and September are preeminently the months for this work, but if time can be found to drain that disagreeable and unprofitable piece of land that *lies so near the house*, it would be a great comfort to the women to have it done. Besides, that is the best acre of grass land on the farm, and drained and top-dressed a little annually, it would yield two tons per acre, for twenty years in succession.

Of course, there are many other things to be done on the farm in APRIL, which will suggest themselves to him who has the responsibility of attending to them. He must remember that a *good start* generally accomplishes about one-half the thing to be done, and that it is the laggard who is forever grumbling and puffing and blowing and trying to catch up with the world, but never does it. It is an exceedingly disagreeable state of mind, always to feel in a hurry. Let us, then, be up with the season in our work, be contented and cheerful, and full of well-founded hope of progress and profit through the growing months.

"The crocuses put up their lit'le heads,
While it rains, it rains, it rains;
And the pink spires spring from their chilly beds,
While it rains, it rains, it rains;
The peach blossoms whisper within their cells,
'We will open our eyes and peep from our bells,
While it rains, it rains, it rains.'"

HORSE TAMING.

Want of space prevented our enumerating the different animals experimented on by Mr. Rarey at his first exhibition. The third one introduced was a wild horse from South America, whose numerous antics on entering, made very evident the statement of Mr. Rarey that "he had never been broke except to the halter." But before the nimble mustang left he was thoroughly "broke" in every sense of the word, and had effectually learned the lesson which the tamer impresses upon every horse which comes under his influence, that "man is the master." In less than fifteen minutes time, this rampant little nag had become the very pattern of gentleness and humility. So there was no further use for him, and he was led away bestowing, as he disappeared, a remarkably meek look upon the audience, as much as to say, "I'm a used up horse." After the exhibition of two diminutive Shetland ponies, a magnificent stallion was led in by the attendants, who were careful to keep at a good distance from him, using all the latitude the ropes allowed of. He was indeed a magnificent specimen of horse flesh, with an eye betokening almost human intelligence, and which excited a murmur of approbation from the whole audience. A most vicious beast, for four years he had been entirely unmanageable, having killed two keepers, and injured several others. He kicked, struck with his fore feet, and repeatedly endeavored to bite the tamer, through his heavy muzzle. But it was all labor lost; he fared no better than his predecessors, and in a short time was so thoroughly subjugated as to allow Mr. Rarey to sit upon his back, handle his fore and hind feet, even lay them on his face, pull him about the stage while stretched on his back, and most surprising of all, to remove the muzzle and thrust his hand, and then his arm, into the animal's mouth.

In this subduing process, the first end to be attained by the subduer is a thorough understanding between himself and the horse. The animal must be convinced by a certain course of humane treatment—he never can be by ill usage—that man is his master, and by quiet submission no harm or suffering will come to him; make this impression upon him, and he yields himself completely to your power. To accomplish this, Mr. Rarey, with a skilful manœuvre, manages to take away the use of one leg by attaching a strap to the fetlock, which is then drawn up through the girth or belly-band, and fastened short enough to remove the foot from the floor. After the lapse of a few moments the other fore leg is treated in the same manner, and the horse is thrown upon his knee-joints. In this condition he is powerless, yet does not give up. But seeing that his exertions to rise or to injure the tamer are futile, in a few moments he rolls over upon his side thoroughly conquered. The principal object is accomplished, and now that he is in his power, the tamer caresses him, strokes his mane, lies by his side with his arm encircling his neck, and thus convinces the animal that he would not harm him on any account. He perceives no ill disposition in the master, and he will manifest none himself. A feeling of sympathy has been established between man and beast. This constitutes the whole secret of Mr. Rarey's wonderful power over horses. A single lesson will not suffice, as is generally supposed, but four or five days are required to accomplish the complete subjugation of an animal. Besides proving so clearly this general principle, which should be followed by horse managers, Mr. Rarey has presented some most valuable suggestions as to the best method of lifting a horse's foot from the ground, mounting the saddle, and stopping the animal when attempting to run away.

I have often, said he, been angry with farriers for the bungling and careless way in which they took hold of a hoof, when about to shoe it. There is a right and wrong way. Don't grab at it, as if it was a roasted apple in a furnace, but begin thus—pat the horse's neck, pat his shoulder, lean yourself familiarly against the upper part of his leg, run your hand gently and soothingly down to his foot, and then easily, steadily (not steady by jerks) take it up—all motive for resistance being absent, the foot will lie peacefully in the hand, the nerves are relaxed, and you can throw it up, and up, and there will be no trouble.

In mounting a horse, many people go to work with the wrong end first, as indeed they do about everything. It's as simple as possible. You don't want to have all of your weight come on one side of the horse; if you do, the saddle is drawn on one side, and it is not easy for the horse to sustain it, but you should now place your hand on his neck, bearing thereon so that the hand shall balance the foot, then spring lightly in. You can do this as well when the saddle is ungirded as when tightly fastened. In the head the horse has immense power.

No man can ever hope to hold in a running horse by pulling evenly upon the bit; he might as well try to lift himself over the fence by pulling at his boot-straps; it can't be done. When a horse's head is turned to one side he is compelled to so arrange his legs that they will properly balance him—he cannot run forward—therefore my advice would be, if a horse is running away, or if he refuses to go, to pull tightly as I now do upon the right rein, and force the horse to describe a circle for an indefinite period of time, after which, you may depend upon it, he will not attempt the same trick.

For the New England Farmer.

THE PLUM WEEVIL.

MR. EDITOR:—I read with great pleasure the various contributions on the subject of Insects in your valued paper, but regret the ignorance which seems to prevail with regard to the natural laws which govern them, and control their habits and transformations. My attention was called particularly to a communication in the paper of Feb. 9, from your correspondent, Mr. WHITE, of So. Hadley, which I will proceed to discuss, if he will excuse the liberty, for the sake of the motive. For the destruction of insects on the plum tree, he recommends vials of sweetened water hung from the limbs; stating that he has found in them hundreds of insects that he had never before seen. I feel no hesitation in saying that in the whole number of species in those vials he never found more than one, if any, specimen of the plum weevil, or curculio, the only insect which may be considered the enemy of the plum, and which has caused the abandonment of that branch of fruit-growing throughout the country. Many species of moths, flies, wasps, and occasionally a beetle or two, most of which are injurious to vegetation, though not to the plum trees, are the result of these vials; therefore they can be hung on any tree with equal, and even greater propriety than on the plum. They are of considerable service on the apple tree in capturing the parent of the core-worm, and on the cherry they will kill many moths whose larvæ are injurious to leaves. No certain remedy has yet been discovered for the devastations of the curculio, except *constant* watchfulness and labor in jarring the trees during the season of their attacks, which extends from the time the young fruit reaches the size of a small pea, to the fourth or fifth week after.

Mr. W.'s receipt for killing rose-bugs is excellent, and is equally useful for the small green lice which overrun the tender shoots of various shrubs and plants. In the last of the paragraph, however, he says: "These fellows, as soon as they have shed their yellow wings, attack horses, being the small horse-fly which is so troublesome through the summer." Some slight similarity in color or size between the rose-bug and some of our summer flies, must have led him into this strange error, for the rose-bug, as it is called, is a beetle, which, being gifted with hard and horny jaws for eating leaves, and double wings, the upper pair of which are also hard and shell-like, while the lower are folded beneath them, never changes in form, habits or appetite, after it emerges from the earth. The various species of horse-flies, on the contrary, have a long sharp sucker, or trunk, through which they suck the blood of animals; without jaws or biting apparatus of any kind. They have only two wings, which are never folded, but always ready for flight, and their bodies are of much softer consistency than the beetles

Andover, March, 1861. F. G. SANBORN.

For the New England Farmer.

STONE WALL vs. WOODEN FENCE.

USE OF SMALL ROCKS—GOOD ROADS—UNDERDRAINING.

Some farmers are not very much in favor of stone wall as a farm fence, because the cost is so much. It is true that stone wall would cost much more than wooden fence, where timber is plenty, and rocks are scarce; but where rocks are plenty, and timber scarce, stone wall is not always the most expensive fence. For example: suppose a farmer to have a piece of land which he wishes to enclose and cultivate; the measurement is twenty-five rods on each of the four sides; it would take one hundred rods of fence to enclose it, and there are rocks enough on it to build one hundred rods of wall; the rocks, or a part of them, at least, must be taken off before the land can be cultivated to advantage, and when taken to where the fence is wanted, they can be laid into wall for thirty-three cents per rod; the digging and drawing should not be charged to the wall, but to the land as improvements, so there are one hundred rods of wall for $33.

To enclose the same piece with rail fence, three rails high, rails twelve feet long, and making a reasonable allowance for splice, it would take nearly one hundred and forty-four posts, and four hundred and thirty-two rails.

144 posts ready to set, at 10c each	$14,40
432 rails " " 6c each	25,92
Setting up 100 rods rail fence, at 2c per rod	2,00
One hundred rods rail fence	$42,32

It will be seen by the above figures, that the cost of the rail fence is a fraction over twenty-eight per cent. more than the cost of the walls; that, perhaps, is more than an average, but there are many fields here on the granite hills of the Granite State that are plowed and sowed, raked and mowed, year after year, over rocks where, if they were taken out of the way, the plow, the harrow, the mowing machine and horse rake would work enough better to pay the cost. And when drawn to the place where a fence is wanted, they can be laid up into wall for less than the cost of a suitable wooden fence.

Again, some will say, "Stone wall covers up too much soil." But it should not be built on the soil; the soil should be taken off, and it should not be built so wide as it often is. Some farmers will say, "I build my wall wide to use up my small rocks." There is a better use for your small rocks than to lay them into wall five or six feet wide, on top of the soil, and have it tumble down at that. When you wish to build, dig a trench as wide as you wish your wall, or a little wider, if you like, take out all the soil (and the subsoil too, if it is a good loam,) and cart it to your barn cellar, or some place where it can be used to increase the manure heap; then dig the trench a trifle deeper, taking out enough to bank up the wall a little, to prevent the manure and soil washing into it; fill up the trench with small rocks, and build a good single wall on them, and you will have a good fence. If you have plenty of large rocks that you want to get rid of, begin by placing the largest at the bottom of the trench and fill the space, if there is any, between the large rocks and the sides of the trench with small ones, and save the remainder of the small rocks for some other use, and the wall will stand all the better for it. If there is a piece of highway that is rough, or low and muddy, over which you cart your manure to the field, and you have a quantity of small rocks left, cart them into the road and level them off a little crowning, and as smooth as practicable, ten or twelve inches deep, or deeper, as occasion may require; cover them over with good road-gravel, level it off and rake it over as smooth as a garden bed, and with a heavy roller, roll it down hard and smooth, and you will have a piece of good, smooth and dry road, that will remain so for years; one that will not sag down in the middle, hold the water, and cause mud like an all gravel road. The water that does not run off will soon settle down among the rocks and leave the road dry. In consideration of all this, if the highway surveyor will not acknowledge your highway tax paid, you can make out a bill against the town, and if you are not satisfied that that is a paying business, you can use up your small rocks on your farm in a way that will pay; for there is another way in which small rocks are useful, viz:

UNDERDRAINING.

On most all rocky farms, there are some cold, wet spots that would be greatly benefited by underdraining, which may be done in the following manner: Dig a ditch, from three to five feet deep and any convenient width, throwing the soil and subsoil on one side, and that below the subsoil on the other side. Fill the ditch to within fifteen inches of the top of the ground with small rocks, and cover them over with forest leaves, straw, or something of the kind, to keep the soil from sifting down among the rocks. Then with the plow, turn in the soil and subsoil that was thrown out, and there will be a good underdrain. That which is dug out below the subsoil may be spread and mixed with soil, with no disadvantage to it.

How this way of draining would compare with tile draining, I am not able to say, for I never have used tile. But I have a drain put in with small rocks, that has been in twelve years, and it has not failed to do its work yet. And I have some others that have been in but two and three years, that have nearly paid for the digging; besides, I think it worth something to have a place to put the small rocks out of sight without carting them from the field. I can say from experience, that small rocks rightly used, help to make the best of roads, but I think it pays better to use them for underdraining, and take pay in grain and grass, than it does to use them for mending roads and take pay in riding over them.

Amherst, N. H., Feb., 1861. D. N.

REMARKS.—The above contains many excellent suggestions. Draining on *hard* land with stone will answer very well, because mice would not be likely to work there. In this kind of draining, it is quite common to err in making the drain unnecessarily wide, and *not deep enough*. If the drain is to be filled with small stones, one a foot in width and four in depth, would be more effective than one three feet wide and three deep.

With regard to the disposal of stones, we think there is one rule of universal application, which

is this: On all land that is not so rocky underneath as to make digging expensive, never take a stone away that is not wanted for wells, or for some other special purpose, but dig holes and place them in so that they shall not come nearer than eight or ten inches of the surface. This can be done as cheaply as they can be carted off and piled up in some other place. There are, at least, four advantages in this process.

1. The surface is relieved of them, so that they are out of the way in cultivating.

2. If not too far below the surface, they attract moisture, and are especially valuable where deep-rooted plants are cultivated in times of drought. Fruit trees flourish finely over them.

3. They are storehouses of heat, warming the soil about them, and the young roots that penetrate it, and acting like bottom heat in a forcing house.

4. So much of the land as is dug over to receive the stones, is thoroughly *trenched*, and will feel its influences for many years, whether it is cultivated or kept in grass.

BLUE-GRASS REGION OF KENTUCKY.

The editor of the *Boston Cultivator*, writing at Georgetown, Ky., says that section presents in many respects a striking contrast to any portion of New England.

In an agricultural view, we see little preparation for winter, at least, little that we are accustomed to see at the North. The large barns in which our farmers shelter their animals and the provision for them, are not found here. There is nothing like what we should call a barn, and but seldom any artificial shelter for stock, except stables—mostly quite rude, being often made of logs—for working horses. Neither are there stacks of hay on farms in general. The stock is supported in winter almost entirely by grass. "Winter pastures" are reserved, on which the blue-grass *(Poa pratensis)* with its long, soft leaves, covers the ground like a mat, and there is seldom any weather that the stock cannot graze. Indian corn is produced in large quantities, and the stalks and husks of this grain, shocked in the field, afford fodder for the stock when the grass may be covered with snow, which, however, is not often the case for many successive days. Corn in the ear or unhusked on the stalk, is fed to fatting stock or for other purposes, according to the wants of animals.

The country is remarkably healthy, not only for the human race, but for all domestic animals. The freedom of cattle and hogs reared here from disease, has often been commented on by butchers who slaughter animals from different sections.

TIME FOR CUTTING TIMBER.—We have been long satisfied that the best time to cut timber is in summer, provided it is not left in the log, but is immediately worked up into boards, rails, or whatever is intended. It dries rapidly, and becomes hard and sound. Cut and saw basswood in summer, and in a few weeks it will become thoroughly seasoned, and will finally harden so as to almost resemble horn. Cut it in winter, and it will be so long in seasoning as to become partly decayed before the process can be completed. No doubt, the presence of the water or sap in great abundance in winter, and especially towards the latter part, hastens this incipient decay. Rails cut and split in summer, and the bark pealed to hasten drying, have lasted twice as long as winter cut rails.—*Country Gentleman.*

PLANTING TREES.

Persons intending to plant trees should begin to think of the matter now, so as to be ready to enter upon the work as soon as the opening of the ground will permit. If the selection of the land, the selection of trees, the varieties to be used and the distances apart at which they are to be set, are to be left until May, when the lark is whistling on the top of the maple, the work will probably be done in such a hurried manner as to cause many mistakes. All these preliminaries may be arranged by the sitting-room or kitchen fire, and may be aided by suggestions of the women, or by those of the sons who are to assist in the labor. This is the engineering, or planning part of farming, and never should be left to be decided upon when the time has come to do the work, any more than the carpenter should decide what kind of a barn he is to build for you, when he has got his force together to raise it!

Having decided what distances shall be preserved, they may be set off, and then the holes should be dug as early as possible. It would have been better had the earth been thrown out last fall. The holes should be large—never less than *four* feet in diameter by eighteen to twenty-four inches deep, and if *six* feet in diameter, they are all the better. The earth thrown out should be turned over two or three times, so that it may all receive portions of the rain that falls, and the energizing influences contained in the atmosphere. Under this process, that which was taken from the bottom of the hole will be greatly improved. It may answer to dig the holes only a foot deep, and spade the bottom six or twelve inches; but this process is not so thorough as that of throwing the earth entirely out.

Before setting the tree, the black top soil should be thrown into the bottom of the hole, with a sufficient quantity of other black soil near to fill the hole up to within two or three inches of the surrounding surface. If it can be afforded, a little well rotted compost may be mingled in with decided advantage. In this manner a complete root bed is formed for the new comer; one favorable to excite numerous fibrous roots, because it is rich, light, and capable of attracting

both heat and moisture. In such a position, the tree will soon start into active and vigorous growth, and will be likely to continue this habit for several years, as the roots will not be soon checked by coming in contact with a hard and cold soil.

Great care must be observed not to set the tree too low in the soil. A good rule is to leave the crown of the root just on a level with the surface. If there are plenty of roots, and one or two of them come up quite near the surface, while all the others are well below, cut off the upper ones, as they will be likely to throw up suckers continually.

Trees should be selected that have been formed in the nursery, as those that have not been are materially checked in growth by frequent alterations in their amount of top. When trees in the nursery are formed, those may be selected that are much alike in size and figure, and the planter may have before him an orchard not only of good fruit producing trees, but those doing him credit in their similarity to each other, and in their symmetry of form.

Fifty trees, such as we have described, and set as suggested above, will be more productive than one hundred of an indifferent description, and set in a careless manner.

For the New England Farmer.

LEGHORN FOWLS ONCE MORE.

MR. EDITOR:—I transmit the following in answer to frequent inquiries about Leghorn fowls. The first Leghorns brought into the United States were introduced from Leghorn, about the year 1854, by the captain of a whale ship, of Mystic, Conn. The leading merits of this race of fowls are the number of eggs, of which they produce more than any other variety, the pullets commencing to lay as early as four months old; their eggs are of good size; they are hardy fowls, and rarely wish to set; their legs and skin are yellow, fine-fleshed and excellent for the table, with little waste in offal. Both sexes are lower in the leg than the Black Spanish, and their size is much the same; their whole form is good, and quite plump in the make. Both cock and hen have larger single combs and wattles than those of the Black Spanish.

The plumage of the original Leghorns was brown and reddish yellow. I obtained this breed of fowls from a gentleman that has kept and bred them in their utmost purity from the original stock, yet white individuals may have been produced from the dark colored, as we see in other breeds of fowls. This change in color of feathers may be produced by change of food and climate. Those of darker plumage are generally esteemed, and are believed to be the best breed. The white sort is rejected as being more tender, and not so prolific as the darker colored. In a lot of sixty I had last summer, of this breed of fowls, I observed three with light colored feathers. Their scarcity, as well as the high price at which they have been held, has prevented them from coming into general use. I have sent fowls and eggs into most all the New England States and New York. I learn from several gentlemen that they have proved themselves to be constant winter layers: their eggs more than double pay their keeping, and the fowls are liked the best of any they have ever kept. Their only fault, (if any,) is their small size. The Leghorns have been crossed with the Black Spanish and other breeds of fowls which are inferior to the genuine Leghorns.

Uxbridge, Feb. 4, 1861. JAMES MCNAY.

For the New England Farmer.

FARMING FOR THE MASSES.

MR. BROWN:—I have been interested in the State Agricultural Meetings, and I am persuaded that they will tend to raise the standard of farming throughout the Commonwealth. There is, however, a class of farmers who are not reached by such meetings. I allude to a class who have limited means, and have not sufficient wealth to make such use of land as would cause its cultivation to be profitable. They have not manure, and are incapable of producing it, and have not the ability to purchase it. They thus plod on, year after year, to no profit. They have but a few acres of ground, and that is of a poor soil, and does not remunerate the laborer for his daily toil. How can he enrich his ground at less expense, than the man who has ample means to improve his ground?

Where we undertake to advance the education in a community, we endeavor to reach the lower classes of society, to raise the masses, and not merely to improve our colleges and higher seminaries of learning, but begin with the first rudiments, the lowest ranks of a community. A very large proportion of the farmers in New England, or such as obtain a living from the cultivation of the soil, are poor, and find it very hard to commence the year free from debt. Some have a trade at which they work a part of the time; others work for their more prosperous neighbors, to the neglect of their own little homestead. How can the standard for such be raised. How can they procure or manufacture manure to enrich their few acres, so that instead of realizing a small income from an acre, they may obtain hundreds.

If anything can be done to reach this poorer class of the tillers of the soil, something may be effected to advance farming interests generally. As in science, so in agriculture, new discoveries will continue to be made, and capital will be required to carry such improvements forward, while a large part of a community will remain shrouded in darkness. Waste lands will still lie unimproved, and much labor will be lost through ignorance.

Eight or ten acres of land may easily, with suitable management, be made to support a medium sized family, of five to seven persons. What can be done to enlighten and help forward this large class in the various towns throughout New England? The means of procuring manure are not at hand. The necessary labor can be had, but knowledge is wanting by which this labor can be profitably employed. Means are wanting by which unimproved lands and lost labor may be made pro-

ductive of good to those of moderate wealth, and little knowledge of farming. Can these lands be enriched at an expense within the reach of those thus situated?

Will some of your correspondents enlighten our growing community on such topics as will afford all necessary information to the young and inexperienced farmer of moderate or limited means.

Boston, January 24, 1861. D.

REMARKS.—We cannot answer your questions satisfactorily, even to ourself. Please tell us how *you* think the results you desire may be gained.

NEW PUBLICATIONS.

THE PRINCIPLES OF BREEDING; or Glimpses at the Physiological Laws involved in the Reproduction and Improvement of Domestic Animals. By S. L. GOODALE, Secretary of the Maine Board of Agriculture. Boston: Crosby, Nichols, Lee & Co. 1861.

This is a well printed book of 161 pages, written and published because the writer, in the pursuit of his business, saw the "want of some handy book embodying the principles necessary to be understood in order to secure improvement in Domestic Animals."

In the introduction to the book the author gives some striking illustrations of what he desires to teach, one of which is as follows:

Let us reckon a little. Suppose a man wishes to buy a cow. Two are offered him, both four years old, and which might probably be serviceable for ten years to come. With the same food and attendance the first will yield for ten months in the year an average of five quarts per day,—and the other for the same term will yield seven quarts, and of equal quality. What is the comparative value of each? The difference in yield is six hundred quarts per annum. For the purpose of this calculation we will suppose it worth three cents per quart—amounting to eighteen dollars. Is not the second cow, while she holds out to give it, as good as the first, and three hundred dollars at interest besides? If the first just pays for her food and attendance, the second, yielding two-fifths more, pays *forty per cent. profit* annually; and yet how many farmers having two such cows for sale would make more than ten, or twenty, or at most, thirty dollars difference in the price? The profit from one is eighteen dollars a year—in ten years one hundred and eighty dollars, besides the annual accumulations of interest—the profit of the other is—nothing. If the seller has need to keep one, would he not be wiser to give away the first, than to part with the second for a hundred dollars?

In the chapter upon the "*Law of Similarity*," he gives numerous forcible examples, which, if better understood in the rearing of animals—and in reproducing and rearing human beings too—would be of vast service to the world. Read one of them below:

We see hereditary transmission of a peculiar type upon an extensive scale, in some of the distinct races, the Jews, and the Gypsies, for example. Although exposed for centuries to the modifying influences of diverse climates, to association with peoples of widely differing customs and habits, they never merge their peculiarities in those of any people with whom they dwell, but continue distinct. They retain the same features, the same figures, the same manners, customs and habits. The Jew in Poland, in Austria, in London, or in New York, is the same; and the money-changers of the Temple at Jerusalem in the time of our Lord may be seen to-day on change in any of the larger marts of trade. How is this? Just because the Jew is a "thorough-bred." There is with him no intermarriage with the Gentile—no crossing, no mingling of his organization with that of another. When this ensues "permanence of race" will cease and give place to variations of any or of all sorts.

In the chapter upon the "*Law of Variation*," Mr. Goodale says:

Very recently, in a paper published in the Aberdeen *Journal*, a Veterinary Surgeon, Mr. James McGillivray, of Huntley, has offered an explanation which seems to me to be the true one. His theory is that "*when a pure animal of any breed has been pregnant to an animal of a different breed, such pregnant animal is a cross ever after, the purity of her blood being lost in consequence of her connection with the foreign animal, herself* BECOMING A CROSS FOREVER *incapable of producing a pure calf of any breed.*"

This doctrine we avowed seven years ago in an agricultural mass meeting, and were pretty soundly "drubbed" for our temerity. Thanks to Prof. NASH, then of Amherst College, who came to the rescue, we came off with flying colors, but did not take the enemy with us! It is a physiological law, as much as that of gravitation, and we are glad that one writer among us has had the boldness to declare it.

The remaining chapters are upon "*Ancestral Influence*," "*Relative Influence of the Parents*," "*Laws of Sex*," "*In-and-in-Breeding*," "*Crossing*," "*Breeding in the Line*," and "*Characteristics of Breeds*." The chapter upon the law of sex is short, as well it may be. It will require long and patient investigation, and a series of trials that will test the endurance of any man, to arrive at any plausible results on this point.

The book is greatly needed, and ought to be read by every adult in the country.

PRECAUTIONS IN USING ZINC.—A report of a committee appointed by the Central Society of Architects, in Paris, recommends "that zinc, which was at first rejected, but is now so generally used, should be applied with great care, as certain precautions, very simple, but never to be everlooked, are indispensable. Thus: contact with plaster, which contains a destructive salt, is to be avoided; also, contact with iron, which is very injurious, and liable to cause a rapid oxydation. Eave gutters should always be supported by galvanized brackets, and no gutter or sheet zinc should be laid on oak boards."

EXTRACTS AND REPLIES.

A NEW SUGAR EVAPORATOR.

As many of the readers of the *New England Farmer* make every year considerable maple sugar, I thought a few lines upon this subject might be interesting to them; and more especially so, as we soon expect to speak of a new boiling apparatus, that is far superior to the common pan used at the present time. It is the best article that finds the quickest sale, and at a higher price.

Maple, in its pure state, should be nearly as white as crushed sugar. The color comes from some impurity in the sap, or the manner of boiling, or from both. It is impossible to make the best sugar in the common sheet iron pans, which are mainly in use at the present time. Every one familiar with the process, knows that the sap will burn on to the sides of the pan, and is again washed off into the syrup, thereby giving the sugar a bad taste, and a dark color. This is remedied by using "Cook's Sugar Evaporator, manufactured by Messrs. Blymyers, Bates & Day, Mansfield, Ohio.

The writer used this evaporator a part of last season, and can cheerfully recommend it to all sugar-makers as being a perfect sugar-boiling apparatus. It is a shallow pan, about eight feet long, and four feet wide; and is arranged with flanges, raised on the bottom, one and a half inches high, which are left open for a space of four inches at every alternate end. A tub of sap is placed at the front left hand corner of this pan, and another tub is put at the back right hand corner of the pan, to receive the syrup. This pan is set on a furnace, made for the purpose, or can be adjusted to a common arch. It is then filled three-fourths of an inch deep with sap, and the fire is started. As soon as it begins to boil, turn the faucet and let on a supply of sap, which runs fifteen times across the pan before it reaches the outlet. After it has travelled 60 feet, continually boiling all the while, it becomes syrup sufficiently thick for sugaring off.

I can boil one barrel of sap per hour, with one fire. Hence, it will be seen that I not only save time and wood, but make a much better article of sugar.

Enclosed is a sample that I made after the 5th of April, which had no cleansing or settling, but was done off immediately after boiling.

W. Westminster, Vt., 1861. G. CAMPBELL.

REMARKS.—The sample before us is of unusual whiteness and purity. We have eaten salt and sugar, too, at Mr. CAMPBELL'S table, and know that he understands what he is talking about in the above article.

MR. ROGERS' EXPERIMENT.

My attention has been attracted by the experiments of Mr. Rogers, in the application of fertilizers to his grass land. It would seem from the results stated that guano produced the best crop—about one-quarter part more than ashes. This is different from what I should have expected. I hope we shall see a definite statement of the products of these several lots, for the coming year, for it is as important to note the permanency of the effect, as the immediate activity.

Mr. R. is the right man to conduct such experiments; he has ample means, and as good land as can be found in the county; his farm being situate on the easterly extremity of what has been long known as Hog Hill, because in olden times swine used to run at large, and in common over these grounds, their pasture lands. So say the Records.

South Danvers, Feb. 11, 1861. P.

ASHES AS A FERTILIZER.

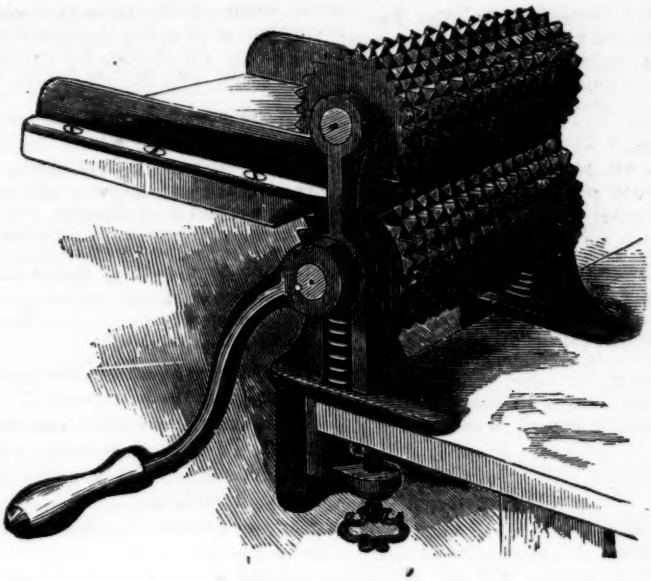
Are wood ashes a manure, or only a stimulant? Which is the best for us farmers, who live back from the sea-board, to buy wood ashes to put on our lands that need fertilizing beyond our barnyard means, at 17 cents per bushel, or any of the foreign nostrums that are cracked up so loudly, at their common prices. WM. IRISH.

East Rumford, Me., 1861.

REMARKS.—Wood ashes is not a stimulant, as that term is generally understood. The alkali which it contains is absolutely essential to most plants, and therefore, when you can purchase it at 17 cents a bushel, you can find nothing cheaper or more effective for the money it costs. It acts something as follows: The black earth which we cultivate contains a large portion of vegetable matter, called *humus*, and this is constantly generating fresh carbonic acid. The acid, in turn, acts upon the alkalies that are contained in the broken rocks and alkaline earths, and dissolves them, makes them soluble liquid, so that the roots of plants can take them up. Liebig expresses it —"these changes"—that is, the changes in the rocks by being broken and pulverized—"consist in the giving of a soluble form to the alkalies and alkaline bases by the combined action of *water* and *carbonic acid*.

"The first colonists," he says, "of Virginia found a soil filled with alkaline substances, from which harvests of wheat and tobacco were obtained for a century from one and the same field, with the aid of manure; but now, whole districts are abandoned and converted into unfruitful pasture land, which, without manure, produces neither wheat nor tobacco. From one acre of this land there were removed in the space of 100 years 12,000 lbs. of alkalies, in leaves, grain and straw."

MASSACHUSETTS HORTICULTURAL SOCIETY.—The first paper in the Report of the Annual Transactions of this Society, is on "*Ornamental Gardening*," and was prepared by our old correspondent, J. F. C. HYDE, Esq., of Newton. It is the report of the Committee appointed to visit such places as they thought fit to look at, and to remark upon them. Reports were made from the Committee on *Flowers*, on *Fruits*, on *Zoology* by Prof. JENKS, and on the *Library*. The Address of the President, JOSEPH BRECK, Esq., was a good one, containing touching allusions to recently deceased members of the Society.



A CYLINDRICAL MEAT-MASHER.

"Is that thunder, Jane?"

"No, father, I think not—it seems to come from the kitchen."

"What *can* they be doing there, to make such a noise? I thought it was a succession of thunder-claps. It jarred the whole house."

"But it don't thunder often in the winter, father; besides, it's all bright sunlight now."

"Well, child, go to the kitchen, if you think the noise came from there, and inquire what the matter is."

So off went dutiful Jane to the kitchen, and there found that "Biddy" had been pounding a piece of a well-knitted beef creature in preparation for dinner, upon a large table, which was, in itself, a pretty good drum. No wonder there was a racket in the house!

Jane came back, reported the fact, and at the same time handed her father a circular describing *Whittemore & Brother's* "Patent Cylindrical Meat Masher," which he took, adjusted his spectacles, and read as follows:

"This machine is intended for mashing beef steak, to make it tender for cooking. It produces twice the effect of pounding, makes the toughest meat equal to the most tender, and will do its work in one-tenth the time required in pounding, one minute only being required to mash eight or ten pounds.

It meets the unqualified approbation of all those who are using it, and the manufacturers have as yet been unable to supply the demand.

The first premium was awarded to this machine by the Massachusetts Charitable Mechanics' Association, at their fair held at Boston during the fall of 1860, with the highest recommendation of the committee and the press."

We are glad to learn that some means have been devised to accomplish two things, viz.:

1. To bring a beef-steak into such a condition that a person with good teeth can eat a moderate slice in thirty minutes.
2. That this may be accomplished without the aid of a lignumvitæ pestle, a pine table, and such a noise as would drive a sensitive man out of the house.

We have not tried the Meat Masher, but from turning it a few times, and contemplating the sensation we might have if our finger were once crushed between its iron teeth, we are strong in the belief, that the muscular portions of all bovine structures must become pulpy and tender under its power.

Hog Cholera.—A disease to which this name is popularly applied, exists in this vicinity, and is proving quite disastrous. One resident of Cranston has already lost forty hogs and has more sick with the disease. Another, a resident of North Providence, has lost more than fifty within a short time, and others have lost smaller numbers. It is probably an infectious, epidemic disease, and very little can be expected from treatment or from precautionary measures. At the same time, its severity and fatality are undoubtedly aggravated by the food, and local surroundings of the animals.—*Providence Journal.*

FLOWAGE OF LANDS.

The Legislature of 1860 passed an act that the dam across the Concord river, at North Billerica, should be decreased in height thirty-three inches, and that this might be done at any time after the first day of September of that year. A commission, consisting of Messrs. HUDSON, of Lexington, BELLOWS, of Pepperell, and BIGELOW, of New Bedford, was appointed, and it was supposed they would proceed at once to lower the dam. Before they did proceed to that work, however, the dam-holders obtained an injunction from the Supreme Court, and no decision was had until the early part of January. In the meantime fall elections were corrupted by the test question, "Will you pledge yourself to urge and vote for the repeal of the bill directing the dam to be taken down?" If the candidate stated that he could not pledge himself to vote to repeal *a measure which he had not investigated*, and would not so pledge himself, some strange influence was found to throw him overboard, and bring some more servile and subservient tool into his place. When the elections had taken place, an anonymous pamphlet appeared, and found its way to the Senators and members elect, filled with gross misrepresentations of the facts in the case, and we are informed that most of the members were visited by the dam-holders themselves, or their agents. That a system of the most shameful and unjustifiable "lobbying" has been going on through their agency during the entire session is manifest to those who have occasionally looked in upon either house.

Petitions were also obtained in aid of the application to repeal, based upon the false statements in pamphlet that was *ashamed to own a name*, and these statements and the request to repeal have been urged upon the Legislature with an obstinacy which nothing but a lavish expenditure of means and a sinking cause could secure.

The present Legislature, early in the session, appointed another Joint Committee, being the third which has been appointed in this case, and for three or four weeks past they have been hearing the parties. Some new evidence has been introduced, but none that materially changes the aspect of the case.

On Friday, March 1, the case for the meadow owners,—the *meadow haymen!* as one of the witnesses of the dam-holders insolently termed them, —was argued before the committee and a large audience at the State House, by Judge FRENCH. During the three and a half hours which he spoke, he scarcely alluded to the testimony of the witnesses called by the land-owners, but based his arguments almost entirely upon the admissions of counsel for the dam-holders, and upon the surveys made by their own agents. A more compact, luminous and logical argument we never listened to. It held the committee and audience in the closest attention, and with evident signs of gratification during the whole time. But the effort was something more than a logical argument —it was a *mathematical demonstration, proved by their own surveys*, that the dam is the *principal cause* of the ruin of some eight or ten thousand acres of the best lands in the Commonwealth! This fact he made as clear, as the fact is clear that water will run down hill by its own gravity. The following are the principal points contained in his argument.

1. The act was passed after the most deliberate consideration.

2. In accordance with the prayer of the petitioners.

3. In accordance with familiar principles of Legislation, and the true spirit of progress.

4. The Act is adjudged by the Supreme Court to be constitutional.

5. A great injury is suffered by the land owners and by the public.

6. The dam is the principal cause of the flowage, and a fatal obstruction to any improvement.

7. The dam was created by improvident legislation in chartering the Middlesex Canal Company.

8. The land-owners are in no fault.

9. The Commonwealth can always *afford* to be *just* to her citizens.

The effort was a brilliant one in matter and manner, and proves that Judge FRENCH will scarcely stand second to any in the State as an advocate, and in point of legal ability.

DIGESTION OF THE FOOD OF CATTLE.—"Practice with Science" is the golden motto of the Royal Agricultural Society of England, and this is just the kind of testimony now being received in favor of Thorley's Food for Cattle; for agriculturists and other owners of stock are, by the successful use of this condiment, beginning to experience that the value of food depends upon how it is digested. Chemically, its constituent elements may be of the highest value, but if imperfectly digested, what is its value to the animal which eats it? During the past month, four first class prizes have been awarded to Joseph Thorley, (the Inventor and Sole Proprietor of "Thorley's Food for Cattle,") for his discovery of a condiment which enables animals of all kinds to extract more nourishment from hay and straw seasoned with it than from unseasoned food, although the latter may contain a much greater amount of alimentary matter.

THE MOUNT VERNON PEAR is the name of a new variety described in the *Gardener's Monthly*, and considered one of the best pears of the season, which is last of Oct. and beginning of Nov.

For the New England Farmer.

THE CULTIVATION OF FLAX.

Mr. Editor:—In these days of political turmoil, it would certainly be wise policy to be as independent as possible, by introducing and promoting the cultivation of flax as a substitute for cotton; which, in a few years, would reduce the consumption of that article, in these Northern States, two-thirds, at least; and ultimately lead to its final exclusion from our manufactures.

Having resided forty years in some of the principal flax producing countries of Europe, I consider myself pretty well posted up in all the details of its cultivation, and subsequent treatment; and I am convinced that flax of the very best quality can be produced in New England, and in a large majority of cases would be a remunerating crop to the farmer, could he be sure of ready markets for it, even at the low price of ten cents per lb.

Judging from my own experience in New England, though on a small scale, as well as that of my neighbors, I arrive at the conclusion, that considerable more flax, and of superior quality, can be produced per acre, on the generality of New England soil, than in any parts of Europe where I have seen it cultivated, and at comparatively less expense.

Now, if its production, in many parts of Europe, be a profitable, or even a fair remunerating business to the farmer, where he has to pay from twenty-five to fifty dollars per acre of yearly rent for his land, why should it not be more so in the United States, where land more suitable for its production can be had at from five to ten dollars per acre, and even less in many places of the country; and seeing that machinery has been invented for converting the flax into cotton, I am confident, that we farmers of the Northern States can produce an ample supply of the raw material to keep all our mills running throughout the year. Both flax and hemp we are able to produce in any quantities, and wait only for the demand to commence operations to supply all domestic, and even foreign markets to some extent.

As I intend, next season, as a beginning, to appropriate several acres to the growth of flax, any information regarding the market value of that article, (and from whence we derive our supply, for the present demand,) from the Editor or some of his numerous correspondents—through the pages of the *Farmer*—would confer a favor on a constant reader of that valuable paper, who would be willing to reciprocate the favor by future communications on this interesting and all important subject. T. C.

Beverly Farms, February, 1861.

A Sheep Farm in Illinois.—From an account published in the *Prairie Farmer*, of the farm of a Mr. Daniel Kelly, in Wheaton, some twenty-five miles from Chicago, we take the following extracts, as showing an instance of profitable farming.

Mr. Kelly removed here from Vermont, where he "tended his father's flocks." He is an old shepherd, therefore. His father's original flock of ewes were imported some time between 1821 and 1826, by Crowningshield, of Long Island. This original flock of 40 ewes were Negrettes—belonging to one of the classes of migratory Spanish sheep. Since coming into the possession of the Kellys, they have been bred on Jarvis & Humphrey's importations of Paular stock, extensively.

The present flock of Mr. Kelly, on the home farm, is 460 head—about the same number he wintered last winter. He has sold from his flock during the past season over $7000 worth of sheep and wool. And he regards his flock worth more money to-day than it was a year ago—he having saved the best all the time.

TRANSACTIONS, 1859.

The public appreciation of the value of the labors of the Agricultural Society of New York could scarcely be manifested in any way more distinctly, nor could praise be given in any manner less offensive to real modesty, than is done by the fact that, throughout the United States, the common word Transactions is, by common consent, employed by agricultural writers to mean one or more of the nineteen volumes which have been published as the "Transactions of the New York State Agricultural Society." The volume for 1859 was received by us a few weeks since, from the Secretary of the society, B. P. Johnson, Esq. Its eight hundred pages give some of the results of the vigorous activity of an association whose Treasurer's account for the year is balanced by the generous footings of $24,410 26, and of whose official members the Executive Committee could truthfully report:—

"All the officers of the Society, with one exception, were present during the fair, and were fully employed, from its commencement to its close, in the discharge of their duties, and evidenced the great interest which is being taken in the discharge of the duties devolved upon them by the Society."

We congratulate the working portion of "the officers" of agricultural associations throughout the wide world, upon this record by the Executive Committee of the New York Society. It should be reduced to an "item," which, as it "goes the rounds" will cheer the diligent and rebuke the negligent among agricultural officers everywhere. Perhaps we may add that one of the Vice Presidents of this Society is located in each of the eight judicial districts, and that the other officers represent the various sections of a State, of whose extent we have received our impressions from journeying steadily night and day for over a week between Albany and Buffalo, and for many hours, though hurried on by steam, between New York City and Rouse's Point.

We should naturally expect that the annual publications of the Agricultural Society of such a State, with such funds and such members, would

be a valuable book. The New York Transactions are essential to every considerable American library, and are fast becoming so to those of Europe. We are informed by the Secretary, that during the year an application was made by the Russian government for a set for the Imperial Library, and that constant demands are made for them by the governments of Europe. And he has the most gratifying assurance that they serve not only to make our country more generally known and appreciated, but are the means of introducing abroad our most valuable farm implements to such an extent as to make this trade a very important item to our manufacturers.

The first report in the volume before us, is that of a committee of five,

ON THE DEATH OF MEMBERS,

in which a brief sketch is given of three of the former officers of the Society, all of whom died in December, 1859. We think favorably of this feature of the work.

ANNUAL MEETING AND ADDRESSES.

The election of officers and the other mere business of the society occupy but a page or two of the one hundred which we designate by the above title, and which include addresses by Hon. JOHN A. DIX, and by A. B. CONGER, the retiring President. Among the subjects discussed was the question, "Are the crops in New York decreasing?" Statements to that effect, so current in agricultural publications, were indignantly denied, and the testimony of farmers present was, that "We are improving in our agriculture. We are raising more food than ever before." The valuable reports of the Committees on Farms and on Dairies were made at this meeting. Sheep-power for churning was recommended as far preferable to dog, water, or woman-power. The writer says he knew of one sheep being used for churning until he was eighteen years old, and that one sheep will churn the butter from twenty cows. The powers may be made on the endless chain principle, or the circular wheel.

"A sheep will churn two or three times a day, even in warm weather, without inconvenience; is much less expensive to keep than a dog, as its food is mostly grass; and it will produce more wool than the ordinary sheep of the flock. Select those of the coarse wool variety, as they will stand the heat well, and are inclined to be mild in disposition. They soon learn to drink buttermilk and grow large and fleshy. Procure a chain fifteen or twenty feet long to fasten them; change their place to feed every day; and when the churning is over in the fall, let them go with the flock, and they are no more trouble until wanted in the spring."

TILE DRAINING.

Premiums are awarded to T. C. MAXWELL for a little over *fifty miles* of drain, at a cost of $5000, on nearly two hundred acres, and to W. T. & E. SMITH, for *fifty-five* miles, at a cost of $100 per mile, or 31 cents per rod.

Extracts from Reports of Committees on award of premiums, and from replies to queries of the Secretary in relation to the wheat midge, and to statistics of crops, are interesting and valuable.

AGRICULTURAL COLLEGE.

After "Some Glimpses of Agriculture in Great Britain," by Mr. TUCKER, of the *Country Gentleman*, we have a complete history of the Agricultural College, at Ovid, Seneca county. The charter of this college was granted in 1853. Is it not strange that the friends of agricultural education in the Empire State should be obliged to read the following paragraph in the "Annual Report of the Trustees," January 10, 1860.

"To this institution the eyes of multitudes are turned, from every State of the Union. It seems scarcely possible, when so near the attainment of our object, that the needful amount for completing the work should be wanting, in a State where so much wealth abounds."

WINTER PREMIUMS.

Agricultural societies, we believe, are very often winter-killed. They undertake to den-up, like bears which do nothing but suck their paws all winter, and the result is that, unlike the bears, such societies never wake up at all. The New York Society makes no attempt to hibernate, in this sleepy manner. It is wide awake in the winter season, and busy, too, as well as during Fair times. We have already noticed its Winter Meeting. In another connection we find a list of Winter Premiums awarded, to the amount of some seven hundred dollars, mostly on such grain crops, &c., as could not be properly presented so early in the season as the usual time of holding the Autumnal Fair.

Abundant, however, as are the labors of this society, the volume before us contains many valuable papers besides those which are, strictly speaking, a part of its transactions. Among these we will barely name an elaborate article from the Journal of the Royal Agricultural Society of England, entitled "Experiments with Different Manures on Permanent Meadow Lands," "The Plains of Long Island," &c., &c.

ENTOMOLOGY.

The society employs Dr. FITCH to investigate the habits and to report on the best methods of destroying injurious insects, and of avoiding their depredations on the crops of farmers, in this "land of insects," as the Doctor thinks America has been truthfully denominated. And he adds that "the losses which we sustain from these pests, immeasurably surpass everything of the kind to which they are subject in Europe." His Sixth

Report on Insects, in consequence of sickness, was not in readiness for this volume. Two of his addresses are, however, published—one "On our most Pernicious Insects," and the other "On the Curculio and Black Knot on Plum Trees." The latter we believe is altogether the most correct description of that insect yet published.

In all parts of the volume we notice complaints of bad weather and short crops. The Secretary says: The ravages of frost have been very extensive, and the destruction of the grass crop, in many portions of the State, has very materially diminished the dairy products in quantity, and has very considerably affected the quality of the butter, in some portions of the season. The corn and buckwheat crops have also been seriously affected, as well as the spring crops generally, in many sections of the State; and, in many instances, these crops did not recover so as to give the usual return. But it is a fact of no little interest, that, so far as returns have been received, it is most evident that where attention has been given to drainage, thorough cultivation and manuring, the crops have suffered much less than in those cases where these precautions have been neglected.

From the statistics of crops, we copy the following, omitting fractions of bushels:

Returns received from		*Average* 1859.	*Average* 1858.
Winter wheat.....20	counties.	19	13
Spring wheat.....18	"	16	13
Corn.....17	"	25	40
Rye.....15	"	14	16
Barley.....16	"	25	20
Hay, per acre, lbs....		2000	3000

SURVEY OF ONONDAGA.

A minute history of one of the richest agricultural counties in the State, with suggestions as to the best means of managing its various soils, fills 134 pages of the volume, accompanied by a large Geological and Topographical Map, and various cuts illustrating the modes of making salt, and of raising "the abominable weed."

COUNTY AND TOWN ASSOCIATIONS.

Proud as the State Society may well be of its own labors, some one hundred and fifty of the pages of this volume of its Transactions are devoted to reports of perhaps half that number of county and town Societies. Such abstracts are given of the reports of these societies as the Secretary supposed would furnish evidence of the present state of agriculture in their respective localities, but nearly *all awards of premiums are omitted.* Thus room is found for quite a number of the addresses which were delivered before these associations. We have barely glanced over these abstracts, seeing enough, however, to convince us that they are the "very cream of the matter." The report from the town society of Hartland, Niagara county, thus alludes to an experiment in drainage.

"North of this ridge, [the famous ridge-road of that section, at this point, some six miles from Lake Ontario,] the land is low with extensive swamps, and wet land of about 5000 acres, which is now being reclaimed by cutting a ditch six miles long through the town, at a cost of $14,000, the expense of which is paid by a tax on the land it benefits. The ditch is nearly completed. Already has the work of clearing the swamps commenced, and we shall soon have hundreds of acres of fine muck meadows where now the alder and wild rose, with their associates in such localities grow in profusion."

MUSEUM AND LIBRARY.

A Catalogue of Implements, Machines, &c., in the Agricultural Museum, and a list of Additions to the Library, are given, and the volume is closed with papers on the "Cattle Disease of Massachusetts."

For the New England Farmer.

THE AIR PRESSURE CHURN.

FRIEND BROWN:—A few suggestions present themselves to me, in looking over the scale of prices of the *New England Air-Pressure Churn Co.*, the first of which is in reference to the high price asked for it. It would strike most any one at first glance as being very much more than men of moderate means would think they could afford to pay, notwithstanding the alleged superiority of the article. This class of men are the greatest patrons of such articles, and it should be the aim of those who wish, successfully, to introduce an improvement, to have an eye to the means of those for whose use it is intended, as well as to their own profit, which, in the long run, will be found in carrying out the motto of quick sales and small profits. I have no doubt but I might readily find several purchasers for the churn, providing it could be brought within the limits of a moderate remuneration to the manufacturers. None can very well doubt the superior value of the churn over most, if not all that have preceded it, and its ultimate success. Still, would not that success be very much hastened, and the proprietor's interests be promoted by heeding the foregoing suggestions?

Another thought occurs, in reference to the difference in the cost of iron and brass hoops. Had I ordered a churn finished off nicely with brass hoops, I should never have dreamed that it would cost me from two to four dollars more (according to size) than a plain iron bound one, had not that fact appeared in the advertisement. It may be that I am in error here; if not, I think it unwise to exact an extra profit for finishing up the article in a neat and tasty manner. Allow me, also, to suggest an improvement, as I conceive, in the construction, or rather the manner of putting in the head or bottom of the churn. As now built, it is after the usual mode of making casks, leaving a channel or crease all round the edges of the head, which is not so readily cleaned as if the bottom was put in in the manner of shaker pails, &c.

I have used, for a number of years past,

Crowel's Patent Thermometer Churn, which my folks are well pleased with, as it is easy to operate, brings the butter quick, and is easily cleaned, which last item is a very important consideration with those making butter. We have, also, one of *Johnston's Patent Churns*, which has been in the house over a year without being used, as it appears to be such a herculean task to clean it properly that my wife will not have it used.

In what I have said respecting the above churns, I do not wish to convey the impression that I have any other "axe to grind" than a desire to promote inquiry on the part of dairy farmers for the best churn for their use, which I conceive to be that which will give us the most good butter in a reasonable time, with the greatest ease of operating and cleansing after being used.

Rochester, Jan. 30th, 1861. K. O.

HOPS.

Prices have ranged low since 1855. Until this season, the crops of 1855, '56 and '57 averaged not exceeding 6 cents, first sort.

The market for '58, hops opened at 10 a 12½c, but afterwards receded to 6 a 8c. The market for 1859, hops opened at 12½ a 14c; but in the summer of 1860 receded to 8c. The crop of 1860 was mostly purchased of the growers before coming to market; first prices were 10 a 12½c, but owing to a large export demand, prices advanced to 30, 35 and 40c. Then the panic in the money market, together with the falling off of the rates of exchange, and the difficulty of negotiating foreign Bills of Exchange, stopped the export demand, and prices declined to 25 and 30c, at which prices the market is now firm. The price of the growth of 1859 is now 12 a 16c; growth of 1858, 6 a 8c; growth of 1857 and 1856, 3 a 6c. The price of these older growths has been higher, but has declined for the same reason above given.

The stock of hops, new growth, in this market, and to come to this market, will not exceed 700 bales.

The quantity of hops exported the past year, and to the 20th ult., is about 35,000 bales;—28,000 bales of the growth of 1860, and 7,000 bales of older growths; and with no further export demand, the prices will not be less, but will undoubtedly improve as the season advances.

If the crop of 1861 is good, and there is no export demand, it will undoubtedly pay remunerative prices to the growers.

We give below the annual statement of Walter Blanchard, Inspector General of Hops.

INSPECTION OF HOPS IN MASSACHUSETTS.

Statement of the amount of Hops inspected in the State of Massachusetts, agreeable to and in accordance with the Law of said State, from Jan. 1st, 1860, to Jan. 1st, 1861:

	1st Sort.		*2d Sort.*		*Refuse.*		*Total.*	
	Bales.	Lbs.	Bales.	Lbs.	Bales.	Lbs.	Bales.	Lbs.
1856	169	31,676	..	....	..	....	169	31,676
1857	423	80,320	57	9,907	..	....	480	90,227
1858	131	23,796	44	8,157	10	2,160	185	34,113
1859	647	122,430	143	27,467	27	5,719	817	155,616
1860	378	73,965	78	15,327	13	2,756	467	92,048
Total	1,748	33,2187	322	60,858	50	10,635	2118	403,680

Average weight of whole number of bales, 190¾ lbs., nearly.

WALTER BLANCHARD,
Inspector General of Hops.

LEGISLATIVE AGRICULTURAL SOCIETY.

[REPORTED FOR THE N. E. FARMER, BY THOMAS BRADLEE.]

The seventh meeting of this Society was held in the Representatives' Hall on Monday evening, and was attended by a very large number of farmers, and others. The meeting was called to order by Col. WHITE, of Petersham, who introduced Mr. D. ORLANDO FISK, of Shelburne, as the Chairman of the evening.

On taking the chair, Mr. Fisk said that at the close of the session of the House in the afternoon he was notified that he was expected to preside at this meeting. The Committee had hoped that His Excellency the Governor might find leisure and preside, but he had informed the Committee that it would be out of his power to meet with them.

He then announced the subject for discussion as "*The most advantageous methods of improving pasture and meadow lands.*" The first clause of the subject, the improving of pastures, may be a subject in which some of our agricultural friends may not be much interested on account of their having no pastures, and desiring none, having some of the best farms in the State, and keeping mostly cows and oxen, and soiling them, making an almost incredible amount of manure, and dispensing entirely with the pasture, and making all their land fit to till. Not having an acre of land but what they plow or mow, and by their increased amount of fertilizers producing such crops as perfectly astonish farmers of moderate means and poorer soils; yet while, said he, they are pursuing this very profitable mode of farming, and setting an example worthy of all praise, they need not be, and are not, excluded from a participation in the discussion of the evening. The second clause of the subject for discussion certainly comes home to this class, and the assembly would surely expect them to tell how they have made their meadows what they are.

He said that the pasture, to most of the farmers in Massachusetts and New England, is the right arm, and a good pasture is the one thing needful for every stock farmer. As our pastures are wearing out year by year, and deteriorating in quality and quantity of feed by over-stocking, by the bleak winds and severe frosts of our long winters, and by many other causes, it certainly behooves us to look for a remedy, and to inquire diligently what can be done to renovate and improve them.

He would say that much every way could be done. In the first place he urged the ceasing to over-feed them, and where a pasture has been over-fed and hard pressed, to put in only two animals where there usually have been four, and occasionally, perhaps once in seven years, leave a pasture unfed entirely, cutting down all the brush

and coarse grass, and leaving it to decay on the ground. He advocated the leaving of all land that would not pay for thorough fencing to grow up to wood. A good stone wall is the right kind of fence, and when it is once built the material is always at hand to repair any breach that may be made in it. It does not pay, said he, to split rails for fences in Massachusetts, where good timber is so valuable.

Many of our pastures in Franklin county are filling up with white weed, a kind of feed which cattle or sheep are not particularly fond of, to say the least. When the land is level it can be plowed to great advantage, and by seeding to clover, and the application of plaster, and turning everything under that grows, for two or three years, he said they could double the value of almost any poor pasture, and if convenient to fence it, they raised a good crop of buckwheat, and thus got a quick profit, but all this time they took care to keep the clover growing.

He considered the system of soiling to be the death of the pasture if extensively practiced. If all the stock that are fed or pastured on the land remain on it all the time, night and day, it will hold its own tolerably well, if not stocked too high or over-fed. He called attention, in closing, to the fact that the farmers in the western part of the State noticed that the best pastures were upon the eastern and southern slopes, sheltered by forests on the north and west, and the best farmers there were coming to think it best to preserve these forests, and were even now planting maple, and other trees, for the purpose of affording shelter to the lands.

T. J. PINKHAM, of Chelmsford, thought the Chairman had taken the correct view of the cause of the wearing out of farms, or rather pasture lands. He said our lands were sick and debilitated from over-stocking, and this was true of all kinds of lands. All the matter that was ever created still exists, but we have taken it from the western part of the State to the east, and we are now doing it from the Western States, and if this is not remedied, they will be as poor as our State is. He did not believe that to increase the number of our cattle was to increase the value of our land.

C. L. HARTWELL, of New Marlboro', spoke of the prevalence of brush, fern, &c., in the old pastures in the western part of the State, and wished to know the most advantageous method of clearing the land of them. Thousands of acres in the Commonwealth were covered with hardhack, and although among these the ground is very fertile, cows will not feed, and an economical method of destroying these would be of great benefit to farmers. Fire will not kill them, and mowing will not effect the purpose, and these and white weed are a great drawback to improving our pastures. He thought the cause of the deterioration of our pastures was more in the division of our lands than in over-stocking. Where cattle feed the most, ferns, briars, &c., do not grow, and he thought the evil of them might be, in a great measure, remedied by dividing our pastures into small lots, and changing cattle round.

Mr. BROOKS, of Princeton, had had forty years experience in farming, but he thought it took more than that time to learn the business. He had tried several methods of getting rid of the evils complained of by the previous speaker. He had burned the "pod" and then scattered seed and sometimes plaster over the land, and by this means had got rid of it. In relation to hardhack, he had eradicated it by mowing two or three years. He considered it was a great advantage for a farmer to divide his lands into small lots, as by this means warmth was derived from the walls, and as the snow always lay in greater quantity under the walls, and as all knew there was much fructifying matter in snow, he attributed the fine vegetation that was always observed under walls to this cause. Speaking of the extra work in plowing small lots, he said from his experience he had found that these could be plowed as cheap in proportion as large ones. We want manure on our lands, but he said he was satisfied we could carry off one-quarter of the products of our farms and they would not deteriorate, and if we could not keep our cattle on the pastures three-quarters of the year we must furnish fertilizers to the land from some other source. He knew that, in his section, the farmers had mostly some money at interest, and as it was a fact that half the men who were using this money failed every twenty years, he knew it would be better for the farmers to use their money on their land, and they would be sure of a profit instead of an entire loss. He thought that money spent judiciously on pasture lands was an excellent investment. The speaker said that, thirty years ago, he had a pasture which one of his neighbors valued at $20 per acre, and it returned him at that time $1,20 simple interest; now the same party estimated the same land to be worth $200 per acre, and with an investment of $50 per acre it paid the interest on the present value. He urged every man to renovate what he could—the more the better, and related an anecdote in illustration of the paying advantage of this.

Mr. Brooks spoke of the benefit of draining, and thought this could be done well and cheaply with stones. Speaking of manure, he said a bushel of corn would produce more manure than would grow another bushel, and he argued this from the fact that a ton of hay fed to an ox will

produce more than a ton of grass plowed into the ground. He said further that one-quarter of the fructifying matter of a piece of ground was in the atmosphere. One ton of hay he knew would make 2 44-100 tons of manure solid, and as much more liquid, and one cow will make 30 tons of manure, which he considered too much for any acre of land in the State.

Mr. BUSHNELL, of Sheffield, being called on said that, from several years' experience, he had found that sheep would improve pastures more than anything else. If briars and bushes were cut once and a flock of sheep turned into the pasture they would prevent their growth by cropping the young shoots and eventually killing the roots. He thought that all farmers had to do to improve their pastures was to keep sheep, and by this means his land had improved fifty per cent. In plowing lands, sheep are excellent, and on the large quantity of lands that cannot be plowed sheep would undoubtedly improve them. He would advise every farmer to keep sheep, as they were profitable in every sense.

Mr. PINKHAM thought we produced too much now, and thus reduced the price of everything; whereas, if there was a smaller production the farmer would be benefited. He wanted to see the legislation for the farmer stopped, as he thought this was the most potent cause of the poor position of the farmer. Fancy farmers, said Mr. Pinkham, want to increase the productions so as to make living cheap, but he thought the way to improve pastures was to give a profit to the farmer, and return back to the soil what was taken from it. The gentleman then spoke of potatoes and apples, but being reminded that he was speaking on matter foreign to the subject, he resumed his seat.

Mr. WETHERELL, of Boston, said that pastures can be divided into two classes, those that can be cultivated and those that cannot, and for the latter he recommended turning in, and the use of plaster. He spoke of a man in Harwich who had land with brush so high that it would hide a cow, and he cut it down and burned it, and after he had scattered 100 to 200 pounds of plaster to the acre, it furnished the best kind of pasture, until now a dairy is fed a great portion of the time from it. He strongly recommended the use of plaster, and on lands where this would not do, he thought guano or the superphosphates would be good, and in relation to guano, he repeated his former statement that he was confident it was a fertilizer.

Mr. PROCTOR, of Danvers, said he had labored on one farm for 20 years, consisting of 60 acres. This was divided by stone wall into three lots, and it was not as good pasture as there was in the eastern section of the State. It had never been overstocked and had always been improving. Most of our pasture lands, said he, cannot be plowed, and it is not expedient to fertilize them, as it costs too much, but if a farmer changed his pastures and did not let them be too close fed, and spread the droppings of the cattle in the spring, they would never grow poor. He thought the manure from sheep the richest that could be applied to the land. He mentioned the case of a neighbor of his, who, for a premium offered by the Agricultural Society, improved thirteen acres of land. He turned into the lot twenty sheep, and in three years time they had killed off all the wild shrubs and bushes, and now the land was as good as any around it, and the premium was awarded to him. He urged gentlemen to confine themselves to the question under discussion.

Mr. LATHROP, of South Hadley, said that in his part of the State plaster produced a greater effect than in any other section. He purchased his farm thirty years ago, and it consisted of 600 acres. He had found it hard then to get enough feed off it to support the cattle necessary to carry it on, but he applied plaster to it, and then he found he could not buy cattle enough to crop the feed. When he took his farm he kept a flock of 300 or 400 sheep, but he found his land deteriorating so much that he went to using plaster, and the effect was wonderful, and now he applies 100 lbs. to the acre once in two years. He keeps entirely fallow cows and beef cattle, and they are in the finest order.

Mr. HOWARD, editor of the *Cultivator*, said he had been often on Mr. Lathrop's land, and it was an elevated alluvial soil of the Connecticut, the river having left the bare clay partially covered with sand, and he believed it to be a fact that wherever this description of soil crops out plaster is of immense benefit.

Mr. FEARING, of Hingham, said he had a farm of 28 acres in Hingham, on which he had fed sheep and cattle for 40 years, and had never applied manure to it. Although a part of it was rocky, it was in excellent heart now, and the best in Hingham, and would bring $50 to $55 per acre at auction to-day. He recommended good fences and mowing bushes and briars and burning them, then stocking the pasture very heavily one, two, or three years, and they would take care the bushes and briars did not grow again. He had used 20 acres this way last year, and it would do well. He thought fertilizers too expensive, and plaster and lime had no effect on lands on the sea-coast, and he said he would not allow any man to cover his farm with it, even if he would do it gratuitously.

Mr. MELVIN spoke briefly of plowing in crops, recommending the plan on the ground that we had worked our farms too hard.

Mr. WHITE, of Petersham, had been a farmer 32 years, and the most successful course he had pursued was the use of the plow. He did not agree with the Chairman in cropping with buckwheat, as a neighbor of his had done so until he could not even get a crop of that. For three years the speaker said he had plowed in oats, and the crops remunerated him for all the expense. All he had done to his land for 27 years was to turn in green crops and use 1¼ bushels of plaster to the acre. He did not understand sheep husbandry but had his doubts of its great profit all over the State.

It having been announced that the subject for discussion at the next meeting would be "*What breeds of cattle are best adapted to the agriculture of this Commonwealth?*" the meeting adjourned.

OXEN THAT HAVE BEEN WORKED MAKE THE BEST BEEF.

Animals that have not been worked, have not, therefore, taken so much exercise, nor made much of any involuntary exertion. They have *not* worn off their tissues, nor thus created the necessity of their renewal. They have *not* breathed so much air, and its necessary proportion of oxygen, for the same reason, viz., because the rate of breathing as well as that of wear, depends upon, and is naturally proportioned to the amount of activity or exercise.

The purification of the blood depends upon the rate and completeness of its renewal; and its renewal is regulated by the degree of exercise, controlling the quantity of supply of oxygen. Hence it will be evident that those animals which at a given age have made the most active and largest *degree* of exertion, must have had their muscles most worn, and their blood oftenest renewed and purified.

Animals that walk at the rate of two and a half miles per hour—about the pace, or what should be, of cattle at work—inhale and pass through their blood twice the amount of air consumed by those standing still, in the same length of time. This involves double the amount of *excretion* of worn off, and therefore effete matter to be expelled from the system, commingled with and contaminating an equal volume of exhaled air, or poisonous exhalations, from both skin and lungs. The greater the proportion and amount of oxygen consumed, the more complete is the renewal of the blood, by the corresponding expulsion of its impurities; and as is the arterial or red blood in quality and purity, so must be the muscular flesh which is formed by its liquid and solid deposits, as a matter of cause and consequence.

On the one hand, then, we perceive that cattle that have *not* worked come to the stalls with blood and meat that have not been so often renewed, purified, and changed. And such animals having more effete matter in their circulation, the latter is more sluggish, and digestion and assimilation less rapid. When thus put up they are less capable of rapid change and nutrition, and gain less rapidly in a poorer product of beef. On the other hand, previously worked animals come in with purer blood, and firmer, better muscles; with better appetites, and healthier digestive power; they accumulate substance faster, because of their better blood and digestive power. And, with a purer and healthier muscular structure for its foundation, to begin with, oxen and steers that have been worked and therefore had their tissues renewed and purified, in proportion to their extra exertion, make sweeter and more wholesome beef. Such is my experience and observation, as well as that of Judge Megis and many others.—*American Stock Journal.*

For the New England Farmer.

LANDS IN AROOSTOOK, ME.

Mr. Editor:—I want some information in regard to Aroostook county, Maine; I have been informed that good farming land can be bought there for 50 cts. an acre. A Young Farmer.

Beverly, February, 1861.

Remarks.—In speaking of the rapidity with which the Aroostook region is filling up with population, the Land Agent of Maine, in his recent report to the Legislature of that State, says:—

In the decade thus closed, the increase of population in the county has been in the unprecedented ratio of eighty per cent., the aggregate in 1850 being 12,533, and in 1860, 22,489. Large as this appears, it yet fails to give a proper idea of the present rate of growth, for during the last three years, the additions to the population have been quite as large as they were the first seven years of the decade, and there is a steady annual increase, not only in the aggregate but in the ratio, reckoning from the fixed number in 1850.

In no section of our country can a more intelligent and enterprising class of men be found—a class better fitted to endure the toils and privations of frontier life, or to establish the institutions, which are at once the distinguishing mark and the ornament of a New England community. During the year thus closing, their industry has been rewarded with most abundant crops, and the inhabitants are more than ever persuaded that Aroostook is destined to be the most beautiful and productive portion of our State.

Among the causes leading to this rapid development of Aroostook, the most potential and decisive is that to be found in the beneficent policy pursued by the State, in regard to its settling lands. Sold as they are at the low price of fifty cents per acre, and payment received in work on the public roads, within three years from the date of purchase, an opportunity is afforded for industrious and worthy men to acquire an independence on easier terms than can elsewhere be presented.

Sheep and Hay.—The *Ohio Cultivator*, publishes the official returns, from each county in the State, of the number and value of sheep killed, and of those injured by dogs, and of the acres and tons of "meadow crops." The total damage to sheep in Ohio, by dogs, in 1859, was $101,895. Hay averages a small fraction over one ton to an acre—1,340,515 acres produced 1,365,987 tons.

For the New England Farmer.

BRAHMA POOTRA FOWLS.

MR. EDITOR:—Having been a constant reader of your valuable paper for some time, I have seen but few articles in relation to the different breeds of fowls and modes of keeping them. I should like to hear from your correspondents oftener upon that subject. Our farmers are often neglectful in the management of this valuable portion of their farm stock. We cannot derive much information from books, as they treat more particularly upon fancy breeds than upon those really suited for the farm-yard. We want a fowl to be a good layer, good for the market, to fatten easily, hardy and of domestic nature, and such fowls, with proper care, can be made more profitable than any other farm stock, that can be kept.

Many think that, by throwing to the hens as much corn as they need once or twice a day, and allow them their liberty, they are well kept. This may do in the summer, when vegetable matter can be found about the farm, but not in the winter season, as they need, like all animals, a variety of food. Corn and other grains are all very good for laying hens if fed together, "*that is mixed grain,*" but to feed upon any one article of food in the winter season will not answer.

I have kept upwards of thirty different breeds of fowls, but have never, until this winter, found the breed that comes up to my idea of a perfect farm fowl, viz: the pure Brahma Pootra, which seems to possess all the good qualities requisite to a perfect breed of fowls. They are very large, yet well proportioned, the hens weighing from 8 to 12 pounds; legs yellow, flesh fine, yellow and tender; very domestic; cannot fly upwards of three feet, therefore are not troublesome by roosting about the premises, to the great annoyance of the animals, and all who may visit the barn. A farmer in Danvers who has taken the first premium at the Essex County Agricultural Society for the last three years, for this breed of fowls, has now 30 of them; they have laid all winter; he has obtained some days 2 dozen eggs from them; they are kept in summer in a field enclosed by a common stone wall. I obtained of him the first of November last, 9 of these hens, and kept an account of their eggs, which is as follows:

November, 12½ doz. eggs, sold at 30c	$3,75
December, 11¾ doz. eggs, sold at 28c	3,29
January, 10¼ doz. eggs, sold at 30c	3,02
From 9 hens, 3 months, 34¼ doz. eggs	$10,06
EXPENSE OF KEEPING.	
1 bushel corn 90c, 1 bush. meal 80c, meat 40c	$2,10
Net profit	$7,96

They were fed regularly in the following manner: in the morning, corn, barley and meal scalded together; at noon, the contents of the family swill-pail; at night, 2 quarts of chopped carrots. I have not charged the carrots, as the manure from the hens will more than offset that account. Meat was given them twice a week. One great mistake our farmers make is keeping too many fows in a small enclosure, and not taking proper care of them. More eggs can be produced in the winter season from 12 good hens, well kept, than from 100 fowls allowed to roam in all weather by day, and roost about in cold and exposed places, or crowded into a small, poorly ventilated coop at night. Although they do not need a very warm coop, yet they require a dry, light and well ventilated house. Meat and vegetables chopped fine, *without cooking*, are very necessary in the production of eggs, and for the health of fowls in the winter season, when they are unable to obtain vegetable matter from the earth.

Salem, 1861. JOHN S. IVES.

REMARKS.—It is not long since we published two or three articles on this subject.

For the New England Farmer.

THE BIRDS OF NEW ENGLAND---No. 11.

THRUSHES.

American Robin—Wood Thrush—Hermit Thrush—Olive-backed Thrush.

The THRUSHES, (constituting the family *Merulidæ* of Vigors and Swainson, the *Turdidæ* of various other authors,) are generally inoffensive and favorite birds, distributed in all countries and climates; about eight species may be reckoned as common to New England. The Thrushes feed much, and at some seasons wholly upon insects, destroying immense numbers of grubs and noxious insects, but towards autumn also subsist largely upon wild berries and small fruits, occasionally upon those cultivated; on which account many unscrupulous persons persist in destroying them, ignoring their valuable services in the destruction of insects, and their cheering songs. Some species are much sought after as food, particularly in some of the countries in the south of Europe, as also in the Middle, and some of the Southern States of our own country, where, in winter, the Robins are often sacrificed in great numbers for the tables of epicures. Many of the most noted song birds belong to this family, and nearly all our New England Thrushes are eminent songsters. They rank in the typical subfamily *(Merulinæ)* of this group, or among the *true* Thrushes.

The AMERICAN ROBIN or THE ROBIN, (*Turdus migratorius*, Linn.; *Merula migratoria*, of Swain.,) one of our best known, familiar and welcome species, is said to inhabit the whole continent of North America, and over the greater part of this extensive region it is known to rear its young. It comes to us from the south early in spring, being in fact one of our earliest spring visitants, and its presence and cheerful notes are welcomed by all as being the precursors of genial weather and opening buds. While the fields are yet dappled with snow early in April, or even sometimes in March, his thrilling notes uttered but occasionally, awaken within the soul those peculiar emotions of pleasure that are the concomitants of the return of the vernal season. Indeed, the Robin does not retire far southward to spend the winter, a few being seen even in New England, in certain sheltered localities, where their favorite cedar and other berries abound, throughout that inclement season; while in Pennsylvania, and in many of the Southern States they are said to swarm in immense numbers. In summer they are found far to the north, being frequent at Hudson's Bay, in latitude 65°, where, according to Dr. Richardson, "the male is one of the loudest and most assiduous of the songsters that frequent the fur countries."

Notwithstanding the many amiable characteristics of the American Robin, and the endearing title by which he is known, he is often accused, and, undoubtedly, not without some reason, of robbing our gardens and orchards of their choice fruits, he being particularly fond of strawberries and cherries; hence the aggrieved gardener, forgetting or ignoring his many virtues, declares extermination against him; he sees nothing in him but what is despicable, and rejoices in his destruction; the little losses the Robin occasions by far outweigh, in his estimation, the esteem in which he is held by the mass of people, to which his obvious virtuous traits so well entitle him; his songs, and the destruction of great numbers of offensive grubs, though valuable to the general farmer, are nothing to him.

The Robin measures about nine and a half inches in length, and about fifteen in alar extent. Color above, dusky ash, deepening into black on the head and tail; beneath a dark orange, fading into white towards the vent; throat white, with black streaks; bill yellow, black near the tip.

The WOOD THRUSH, (*Turdus mustelinus*, Gmel.,) sometimes called the *Swamp Robin* or *Wood Robin*, like the preceding species, inhabits a very extensive region, ranging, it is said, from Mexico to the country around Hudson's Bay. It is a quite shy and retiring bird, generally selecting the darkest and most secluded sylvan situations for its retreat, often a hollow, overgrown with grapevines and alders, through which a rippling stream meanders; here in peace and solitude he rears his young, and from whence he pours his melodious strains, that in the clear, still mornings and evenings of May and June, as well as in the long, gloomy days of lowery weather that occur, may be heard at a considerable distance. His notes, however, are not startling or very conspicuous, being repeated slowly, with considerable intervals of rest between, yet they appear unequalled in sweetness and soothing effect by any of our native song birds; and a recent writer has truthfully observed, "It is certain that any one who stops to listen to this bird will become spell-bound, and deaf to almost every other sound in the grove, as if his ears were enchained to the song of the Siren." The Wood Thrush is exceedingly shy; and, as it is seldom seen outside of the shade of the forest, is not generally known to our rural population, as while he charms us with his song, he seems solicitous to remain concealed. It is generally seen singly or in pairs, and is not numerous. The nest is placed in a bush or small tree, not far from the ground, in his favorite shady glens; it is composed outwardly of withered leaves, lined with a layer of mud and fine, fibrous roots. The eggs are four or five, of an unspotted, uniform light blue. The male commences his song on his first arrival, which occurs about the first of May, and "with the dawn of the succeeding morning," as Wilson observes, "mounting to the top of some tall tree that rises from a low, thick shaded part of the woods, he pipes his few, but clear and musical notes, in a kind of ecstacy; the prelude or symphony, to which strongly resembles the double-tonguing of a German flute, and sometimes the tinkling of a small bell; the whole song consists of five or six parts, the last note of each of which is in such a tone as to leave the conclusion evidently suspended; the finale is finely managed, and with such charming effect as to soothe and tranquilize the mind, and to seem sweeter and mellower at each successive repetition."

The colors of the Wood Thrush are unobtrusive, but chaste and pleasing, being of a brownish-yellow above, brightening into reddish on the head, and inclining to an olive on the tail; throat and abdomen pure white; breast pale buff, spotted with pointed spots of dusky. Length eight inches; extent thirteen.

The HERMIT THRUSH, (*Turdus solitarius*, Wils.,) has been styled the *American Nightingale*, from its great resemblance in size and color to the Nightingale of Europe, and several respectable ornithogists ascribe to it powers of song equaling or scarcely inferior to the musical talent of that well known and far famed bird. Nuttall even considers its lay, in melody and sweetness, to surpass the song of the favorite Wood Thrush. Wilson, however, who described this Thrush, and appeared to be familiar with its history, considered it destitute of song, and observes that they are rarely seen in Pennsylvania, except for a few weeks early in the spring, and late in the fall; but further observes that he found them breeding in the cane swamps of the country of the Choctaw Indians, in May, and it seems remarakable that their song should have escaped the notice of this observing naturalist, if it really possesses such noteworthy musical talents. This Thrush is found from the table lands of Mexico, northward, throughout the United States to the Alpine summits of northern New England, and is said to pass onward to the fiftieth parallel of north latitude; the favorite native haunts of this very recluse species, however, seem to be the dark, solitary cane and myrtle swamps of the Southern States; and the more dark and gloomy the canebrake, the more sure are these Hermits to be met with. Audubon observes that along the borders of the Mississippi, where almost impenetrable canebrakes and gloomy swamps abound, the Hermit Thrush is common throughout the summer, rearing two broods in a year in lower Louisiana, retreating to higher lands during the period when these alluvial tracts are inundated. They generally arrive in New England from the south about the middle of April, continuing with us for several weeks, in small, scattered parties, chiefly confined to the woods, but occasionally making excursions to the garden and plowed fields, uttering no other note than a feeble *queak;* are not at all shy, and when perched, often slowly wag the tail, much like the common Pewee or Phœbe. About the 5th or 10th of May they disappear, and during all my rambles through the forests and swamps in this vicinity I have never observed a single individual in the summer, though I have watched for them closely. In October they again appear in small parties, feeding on the berries of several shrubs that abound in low situations, sometimes lingering till the 10th of November, at which time they were common last fall. They are said to breed, however, in the dense woods of various parts of New England, where their low, melodious notes are almost unrivalled. Their nest is placed at no great elevation, on a horizontal branch, and composed of leaves fibrous rootlets and dry grass neatly arranged. The eggs, four or five in number, are pale greenish-blue, spotted with olive.

The Hermit Thrush is seven inches in length, and ten and a half in extent; upper parts deep olive brown, the tail quite ferruginous; beneath dull white, the breast cream color, with pointed, dark brown spots. Four of the American Thrushes are so closely allied in size, color and habits, that an inexperienced observer would find difficulty in distinguishing between them, except by actual and careful comparisons; the present species, the Wood Thrush, the following species, and the Veery or Wilson's Thrush, which will be described in the next number.

The OLIVE-BACKED THRUSH (*Turdus olivaceus*, Girand,) closely resembles the Hermit Thrush in size, color and general markings, to which it is closely allied. According to De Kay, this species was first detected by a young and very zealous ornithologists, the late H. C. DE RHAM, who perished from fatigue and exposure under the burning sun of Carolina, while pursuing his favorite science. It is supposed by Mr. Girand, who first described it in his *Birds of Long Island*, that it probably proceeds farther north than the Hermit Thrush. Two specimens of this Thrush are now preserved in my collection of New England birds, that were shot last May, both at a considerable distance from any woods, but were probably on their passage from one piece of forest to another. A Thrush, generally thought to be the Wood Thrush, took up its residence in the Court Square of this city last May, and from the majestic elms and elegant maples that adorn it poured forth his musical strains undisturbed by the din incident to the life and business of a stirring city, for several weeks. My friend, B. HOSFORD, a close observer of our native birds, and whose opinion in ornithological matters is entitled to respect, though there was a general resemblance in its song to that of the Wood Thrush, affirms that not a single note of this bird's song corresponded with the well known lay of the Wood Thrush; so that I have thought it probable that this bird might have belonged to the present species, so contrary is it to the nature of the Wood Thrush to be found in such a situation.

Springfield, Jan., 1861. J. A. A.

For the New England Farmer.

ITALIAN, OR CRIMSON CLOVER.

MR. BROWN:—In the monthly *Farmer* for January, I noticed a well executed engraving of the flower and leaves of the *Italian crimson clover*, accompanied by your own remarks, and a communication from Mr. Everett, in regard to it. I had a paper of the seed sent to me, a few years since, from the Patent Office, which I sowed. It grew luxuriantly, and matured its seed the same year. I have sowed a little, as a border plant, every year since. In your February No., an inquiry is made whether the seed has to be sown every year. From my own observation and experience, I should say yes I have never seen a root of it throw out leaves in the spring, after it had blossomed the previous year. Your description of it, as quoted from Prof. Wilson, is a complete one. It is a beautiful looking plant, when in full bloom, and will resist the effects of frost far longer than any other species of clover that I know of. In *November* last, some young ladies gathered it to make wreaths of. Still, in my belief, the same root will never produce blossom stalks but once. By sowing late in summer, or in early autumn, as is practiced in Scotland, it would probably live through the winter, and start in the spring. Sown in the spring, it will mature the same year, and that will be the last of it.

MOODY HOBBS.

Pelham, N. H., Feb. 5, 1861.

EXTRACTS AND REPLIES.

A NEW POWER WANTED.

MR. BROWN:—In your editorial of last week, you spoke of the interest manifested by ladies in their husbands' employments as a "new power in agricultural pursuits." Shall we understand by this, that you consider it a *new* thing for farmers' wives and daughters to feel an interest in farming, and to enter heartily and intelligently into the husbands' or fathers' plans? "There is no new thing under the sun," Mr. Brown—and I do sincerely believe that, among the many happy homes of New England, you will find very few where wife and daughters are not ready sympathizers and helpers.

Where should our hearts be, if not with those we love best? ANNA.

W——, Feb., 1861.

REMARKS.—Yes, my dear woman, we do mean to be understood that the power of which we spoke, will be a *new* power in hundreds of homes, and very sorry are we that such is the truth. You are needed, and a hundred more like you, in the homes of farmers, to convince the female portion of the family that their true interest lies in a better understanding of the art in which their husbands and brothers are engaged, and that a more cordial sympathy with them is greatly needed. There is a *new* power needed on the other side of the house, too. The sympathy should be reciprocal. There should be but *one* interest in the family, and while one has his or her specific charge of certain items of duty, the other should cheerfully recognize and be interested in it. Mutual endeavor should continually strengthen mutual love, into one heart, hand and voice, and then there is nothing on earth so pure, lovely and beautiful, as the family!

CRANBERRY CULTURE.

It is now about 60 years since this valuable fruit has been raised in the eastern part of Massachusetts, but not until about 30 years has it been introduced into the markets as a saleable product. For the last 15 years it has been difficult for merchants to obtain as many as they wanted. I know of merchants who buy large quantities every year, and the export trade is greatly increasing every year.

This fruit is worth from $10 to $20, and never is lower than $8 per barrel. There are four varieties of this fruit. The Bell, Washington, Orange, and the Egg. Although the shapes of these kinds are different, the taste is the same.

What renders this fruit so valuable, is its exquisite and delicious flavor after being prepared for the table, and the extraordinary manner in which it keeps from rotting. Fruit has been known to keep 20 months, with extra care. This is what makes it so valuable to ship. It is shipped to Europe and California. Every person who owns land had better raise enough for his own use, if not for the market. Any land that will bear the potato will bear the cranberry, but moist and wet land is best adapted to its culture. I appeal to all who own meadows and swamps to introduce this fruit. Land that is comparatively worth nothing can be made to be worth from $100 to $500 an acre. I know of acres that a few years ago were worth nothing, which to-day are worth $500 per acre. JOSEPH L. DANIELS.

Milford, Mass., Feb. 6, 1861.

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OYSTER SHELL LIME—HOT BEDS—TOMATO SEED.

1. Will you give the most economical method of burning or converting oyster shells into the so-called oyster shell lime?

2. Give the method, kind of soil, manure, &c., of raising early market lettuce.

3. Give the best way of making a cheap and suitable hot-bed for starting tomato plants, &c. Also, can second-hand windows be bought so as be cheaper in the end than new, and about what is the price of each?

4. About what time ought tomato seed to be planted so as to come forward in good season?

YOUNG FARMER.

Somerville, Mass., Feb., 1861.

REMARKS.—1. Pile up the shells in the corner where two walls come together, with alternate layers of wood or brush, cover with earth, or turf, and set on fire, watching and tending as is done in burning coal.

2. Sow lettuce in moderate hot-beds early in March, and if tended well, the plants will be ready for transplanting by the middle of April. Put them into a good sandy loam soil, made warm underneath by a generous supply of horse manure, stir the ground about them often, and you will be likely to get good heads before the approach of warm weather.

3. We made suggestions about hot-beds in last week's paper. Second-hand sashes may sometimes be purchased low. Inquire the price of new, and then you will be able to judge whether to purchase second-hand or not.

4. Put tomato seeds in pots or boxes in the house, or in the hot-beds early in March, and again on the 10th and middle of the month.

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SALTED POSTS.

Can you, or any of your numerous readers, inform me as to the utility of putting salt into green hemlock fence posts?

Will it add to their durability on dry, sandy land?

Westford, Vt., Feb., 1861. S. G. B.

REMARKS.—Will some one enlighten S. G. B.?

PULVERIZATION OF MANURES.

There is one subject which to my mind has not been so thoroughly discussed in the *Farmer* as its importance demands—the pulverization of manures.

It is the common practice to spread broadcast in the spring, and plow under all manures which have accumulated during the winter. Such manures, from being thrown out in the snow, or into the cellar, have received an undue amount of moisture, and as a forkful is thrown into the cart, so it lays; requiring a very careful hand to spread it, or it lays in large bunches on the ground. This, it seems to me, is very far from the proper way of applying manures.

Now the question seems to be, to what extent can labor and materials be profitably applied to effect the pulverization of manures? All observing men are aware that the roots of plants, at the point where they take their food, are very small, and can no more appropriate a large lump of manure, than a man can live on half-cooked food. I write in the hope of provoking from your pen or those of your able correspondents, some articles on a subject which demands "line upon line and precept upon precept."

Wells, Me., 1861. MOSES LITTLEFIELD.

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USE OF SLAB IN SEEDING LANDS.

I am very much pleased with the idea of the slab for smoothing land noticed in last week's paper. It is all right, except that one of the draft chains should be a little longer than the other, so that the slab will move at an angle of about 15° with the line of draft, and then it will draw much easier and do the work better.

Where can I get cranberry vines to set, and the proper instructions for their cultivation?

South Dorset, Vt., 1861. E. P. LUTHER.

REMARKS.—Thank you for the suggestion about the chain. The use of the slab strikes us as a valuable improvement over the brush harrow; perhaps both may be used advantageously.

Almost any town in the easterly part of New Hampshire has an abundance of cranberry vines. You can get "Eastwood on the Cranberry" at this office.

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PROLIFIC HENS.

The following statement, may perhaps be interesting to the readers of your paper. I have a flock of 37 hens of the Chittagong and Dorking breed, that have laid during the last three months 128½ dozen eggs, viz.:

From Nov. 15th, 1860, to Dec. 15th	495 eggs.
From Dec. 15th, 1860, to Jan. 15th, 1861	485 eggs.
From Jan. 15th, 1860, to Feb. 15th, 1861	562 eggs.
Total	1542

WILLIAM ROBINSON.

Boston, Feb. 15, 1861.

SHEEP KILLED BY AN OWL.—On the 13th inst., Mr. A. North went to feed his sheep, and found two or three quite bloody, and one missing. There being a light snow upon the ground, he concluded he could discover the depredator by

his tracks. He made diligent search, found the missing sheep dead and partly eaten. About the carcass were tracks of a large bird. He set a trap upon the carcass, and next morning had a monster owl, weighing eight pounds. It seems that he lit upon the sheep's back, and with his talons clung to the wool, and with his beak severed the large vein on the side of the neck, thus bleeding him to death. This occurrence would not seem so strange had the sheep been small and poor. Mr. North being a thorough man, and a reader of the *Ohio Farmer*, keeps but few sheep, and keeps them well. Therefore the crows and owls have no claims on his flock.—J. B. LANG, Huntington, Ohio, in *Ohio Farmer*.

For the New England Farmer.

SWEET APPLES.

The value of sweet apples is not known or appreciated. Of all products of the farm, there is nothing so useful, or so profitable, as the best varieties of sweet apples. They are in eating early, and continue to the last, say until June of next year. Their use for food, for man and beast, is more valuable than any other kind of fruit or vegetables. For men, women and children, the use is so great, that it is impossible to estimate it. In the first place many kinds are first-rate for eating raw, and all are good baked. There is no article of food that has so salutary an effect on the digestive organs as baked sweet apples. They keep the bowels in order, and the influence is good on the lungs, liver and kidneys; in fact, if sweet apples were used freely, there would be but little demand for doctors. Baked apples and milk are among the best things for children. If more of such kinds of food were used, such as mush and milk, apples and milk, milk porridge, &c., ininstead of animal food, cake, pastry, sugar plums or candy, we should see but very few undersized persons, with rickets, hip disease, spinal disease, short, dumpy and weakly, with narrow chests, round shoulders and shuffling gait. When children are brought up on good vegetable and fruit diet, with loose clothing, out door exercise, short school hours and plenty of interesting plays and other acts of freedom, they will in a short time renew our degenerating race.

The best kinds of sweet apples are the Early Bough, High Top Sweet, Orange Sweet, Harvey Sweeting, Donmouth Sweet, Jones Sweet, Talman Sweet, Lovett Sweet, (of Danvers,) Nectarine Sweet, Ribstone Sweet, Mackay Sweet and Ladies' Sweet; also Walker's Sweet of North Brookfield, and for a table apple the English Sweet, ripe or in eating from August to February. It is a large red apple, shape much like the Porter, of a most delicious flavor, and keeps well. Many other kinds could be mentioned, but every one has a few favorites to add, so I leave it to individuals to fill up the list. I gave my cow and a colt as many wind fall apples as they wanted from August to October, and they grew fat on them. My cow gave excellent milk and a large quantity, and if she did not get her apples we saw quite a diminution in her milk. I have no doubt but apples will make more milk than any other kind of vegetable, or fruit. Sweet and sour apples are equally good for cattle, as the flavor of the fruit is not in the juice but in the pulp, and as the nutritious quality is in the juice, so the pulp or flavor is of no consequence.

Sweet apples are more saleable in the market than any other kinds of fruit. My Early Bough sell for $1,50 per bushel, Orange Sweets $2 to $3 per barrel, and others equally well. The Jones Sweet is a large white apple, a great bearer, and of large size. It came from New Hampshire, and I think no one has them in this vicinity but myself. The Walker Sweet is one of the sweetest apples in existence, good size, and great bearer. The Harvey Sweeting is an old Colony apple, good for baking. The High Top Sweeting is supposed to have been originated by Mr. Blackstone, of Rhode Island. The English Sweet was given to me by Mrs. Clark, a sister of Hon. John H. Wilkins, of Boston. The Donmouth Sweet is peculiar to Rhode Island. The Nectarine Sweet I have—it is a good bearer, and bears every year.

I have seen several communications in your excellent paper, on the use of sweet apples, and I am glad to see that the subject is exciting the attention of the public. S. A. SHURTLEFF.

Spring Grove, Feb., 1861.

P. S.—If any person should want scions of any varieties that I have, it would give me pleasure to give them as many as they want.

For the New England Farmer.

EVERBEARING RASPBERRIES.

In a selected paragraph, credited to Dr. WARDER, in the *Farmer* of February 16, it is remarked: "There is no reason why we may not one day have perpetual raspberries as well as perpetual roses; there is nothing unreasonable or impossible in it, but yet we have not seen anything of the kind."

Some three or four years since I discovered a wild raspberry plant, bearing blossoms and ripe fruit in September; at the time I supposed it to be merely an accidental circumstance, rather than a permanent characteristic of the plant; yet I determined to watch the plant the next season for the recurrence of the freak. In May, the following season, it blossomed and began to mature its fruits with the other wild plants; but while ripe fruit loaded some of the branches, new shoots were successively appearing on other parts of the plant, developing flowers and flower-buds; and thus till late in autumn, or for more than three months, this plant continually exhibited blossoms, green fruit in all its stages to maturity as well as ripe fruit. The same phenomenon has been repeated every year since, and late in September I have been able several times to collect a handful of ripe, large and fine-looking fruit from this anomalous plant. In the fall of 1859 it was transplanted to the garden, and last year still persisted in sending out shoots that would develop flowers and mature fruit; but the fruit was smaller than usual, the plant evidently suffering from having been transplanted.

New canes sprang up from the few roots that were left where the original plant stood, grew luxuriantly, and towards the end of summer blossomed and produced fine large fruit in abundance, and when the cold blasts and cold nights of Oc-

tober came on, was still producing flower-buds and flowers, and ripening fruit: the flowers and immature berries were of course withered by the severe frosts; but at this time the plant was as fresh and luxuriant as at any time previous, and exhibited none of those signs of decay that had come over vegetation in general; hence I presume, if properly cared for, it might be kept in bearing through the greater part of the year. I have yet to see a wild plant that is more productive or that produces finer fruit than this has since it come under my observation, as it, by chance, has had the advantage of being situated in a rich and deep soil. Otherwise than in its tendency to perpetual bearing, it does not differ in appearance from the generality of its species, which is the *Rubus occidentalis* of botanists, commonly known as the black raspberry, thimbleberry, &c. I may add that during the last year I have met with two or three other plants of this species that exhibit the same unusual peculiarity, all being found in the vicinity of the original plant. Seeing the remarks quoted above, I have thought that perhaps these facts may interest some of your readers.

The fruit of the wild black raspberry, it is doubtless well known, is not very inferior, either in point of size, productiveness or flavor, especially when favorably situated, and I have often thought would well repay cultivation; at least the plants above described I intend shall have careful attention and cultivation. J. A. A.

Springfield, Mass., Feb. 20, 1861.

REMARKS.—An exceedingly interesting account. When the writer has a root to spare we should be very glad to obtain one. This raspberry is our favorite fruit.

WASHINGTON TERRITORY.

In his recent message, Gov. McGill, of Washington Territory, thus speaks of the growth and resources of that Territory:

"But a few years have elapsed—not more than nine years—since the interior of our Territory was known only to the trapper and the tourist. Although unrivaled in the magnificence of its scenery, it was believed to be almost uninhabitable, and valueless for the purposes of agriculture.

"How great has been the change; our inhabitants are now numbered by thousands. In proportion to area, Washington Territory, west of the Cascade Mountains, contains as much good arable land as any other portion of our country west of the Missouri river. The soil is of remarkable fertility, and all the cereals, fruits and vegetables common to a temperate climate thrive well. In no other portion of the country can stock-raising and wool-growing be so profitably followed. As a lumbering region, the shores of Puget Sound are known throughout the world. Our fisheries are the best on the Pacific coast; and coal of superior quality is found in great abundance.

"In addition to these inexhaustible sources of wealth, the Territory is known to be rich in precious metals. During the past summer new gold diggings have been commenced on the Wenatchee and Clear-water rivers, tributaries of the Columbia, and in the valleys of the Siminkameen and Okanagan; and from the reports of the different surveying and prospecting parties, there can be no doubt of the existence of gold in large quantities on all the rivers and streams east of the Cascade Mountains. Traces of gold have been also found along the route of the Fort Benton and Walla Walla road, on the Big Blackfoot river, and Flint and Benetze creeks."

HOPE.

We live in hope: though clouds appear,
They linger but a day;
The sun, to us a gift so dear,
Will scatter them away;
Thus life is but an April shower,
And troubles are but rain;
And hope, the sun, that in an hour
Will bring us joy again.

Memories.

Thoughts of the dead are always sad, and yet
Those we have loved we never can forget;
Kind eyes look sweetly through the shadowy gloom,
And mournful voices whisper from the tomb,
While, with low tone and mildly pensive eye,
We speak their names whose doom has been to die.

EXTRACT OF TOBACCO.

MR. EDITOR:—Hearing accidentally of the South Down Company's preparation of tobacco, for the destruction of vermin on animals, I am pleased to be able to give my testimony to its complete efficacy in entirely removing lice from my cattle; it is the best and most convenient remedy I have ever known, and works so well on my cattle, that I shall try it for my sheep, after shearing, to kill ticks. Why don't the company make it known to the farmers? H. W.

Springfield, Feb.

REMARKS.—The extract of Tobacco, alluded to above, is advertised in our paper, and no owner of an animal should be without it. It is said also to be the best article in use, for killing vermin on green house plants.

THE FOOT OF A HORSE.—The human hand has often been taken to illustrate Divine wisdom—and very well. But have you ever examined your horse's foot? It is hardly less curious, in its way. Its parts are somewhat complicated, yet their design is simple and obvious. The hoof is not, as it appears to the careless eye, a mere lump of insensible bone fastened to the leg by a joint. It is made up of a series of thin layers, or leaves, of horn, about five hundred in number, nicely fitted to each other and forming a lining to the foot itself. Then there are as many more layers, belonging to what is called the "coffin bone," and fitted into this. These are elastic. Take a quire of paper and insert the leaves one by one, into those of another quire, and you will get some idea of the arrangements of the several layers. Now, the weight of the horse rests on as many elastic springs as there are layers in his four feet,—about 4000; and this is contrived, not only for the easy conveyance of the horse's own body, but whatever burdens may be laid on him.

RURAL ARCHITECTURE.

COTTAGE HOUSE AND GROUND, BY GEO. E. HARNEY, LYNN, MASS.

DESIGNED AND ENGRAVED EXPRESSLY FOR THE NEW ENGLAND FARMER.

There seems to us to be no reason why the humble cottage of the poor man should not be as attractive and pleasing in appearance as the extensive facades and lordly proportions of the millionaire's mansion. To be sure, one cannot expect with a few hundred dollars to have the extensive accommodations and elegant effect of the halls, galleries and arches of the mansion that would cost twenty thousand or more, nor with his half acre of ground can he expect to have the sweeping lawns and park-like effect of the estate comprising many acres.

But there is a way in which a man may give his small cottage and grounds an air of taste, a certain snugness and cosiness which a larger place cannot have. Nature will ornament his simple dwelling for him in her own peculiar way, producing, in a short time, effects which completely throw into the shade the skill of the cleverest workman, or the effects of the most creative designs. Let flowering vines be planted around it, and let them cover its sides and trail along its projections. Let a "Queen of the Prairies" form a fragrant bower around and over its principal window. Have a seat underneath, where it will be a pleasure to sit of a summer evening, when the day's work is done, and spend an hour, indulging with the children in their sports, or in friendly discussion with a neighbor who has "just dropped over." Let a Wistaria twine around the columns and run along the roof of the veranda, if there be one. Plant a hardy English ivy at its northern corner, a honeysuckle at its southern corner, and near it make a garden, and fill it with rare and beautiful flowers.

This is where the poor man, in adorning his little cottage, has the decided advantage over the owner of the elegant villa; for we all have noticed that, in proportion as a building is increased in size, does it lose that comfortable, inviting air that a small building, properly designed, and with appropriate surroundings, *always* has. And in proportion as finely-wrought architectural details are introduced, just in that proportion must we discard those other ornaments, the living drapery which Nature has provided; for it would be utter folly to enrich a building with elaborate and beautiful ornamentation, and then hide the whole by a covering of vines and flowers.

Let Nature adorn our humble cottages, and leave it to Art to decorate the princely mansion.

Then, too, the grounds about the cottage may have a character of their own. Introduce here but few large trees, for they tend to diminish the apparent size of the lot; but rather depend upon heavy shrubbery and flowers; planting a few

evergreens, however, in northern exposures, and a few deciduous trees of the medium size, such as, perhaps, the scarlet maple, the larch, the birch or the mountain ash, wherever they can be used with good effect.

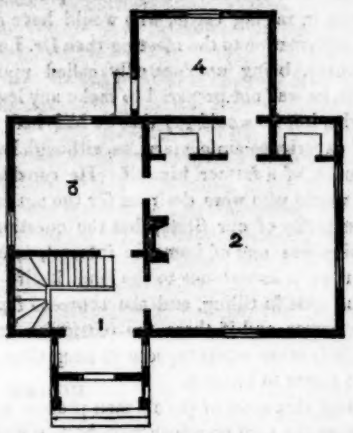
Let your paths—not broad carriage ways, for you have no carriage, but hard, gravelled walks just wide enough for four persons to walk comfortably abreast—wind in and out among the shrubbery—wherever deviating from a straight line, always with seeming good reason—make the circuit of the entrances to the house and outbuildings, and finally terminate in some shady summer-house or play-house for the children, or rustic seat at the foot of the garden—anywhere, so there be some good reason for bringing it there.

Let the groundwork of the ornamental portion be green lawn extending to the boundaries on either side, which are concealed by irregular plantations; and let figures be cut in this turf and filled with masses of flowers — verbenas, amaranths, geraniums, roses, etc. Buy, for two or three dollars, a neat vase of cast iron or terra co'ta, or what is cheaper still, and more meritorious, make one of the smooth twigs of birch or white oak, by covering a small wooden box with these twigs split in halves, and placing it upon a pedestal made of two or three crooked branches of the same tree. Then place it upon the lawn in front of the house, and fill it with myrtle, which will soon lengthen into beautiful tresses and droop gracefully over its sides, forming one of the prettiest garden ornaments that we know of. A sundial, too, is a very pretty addition for the lawn. In fact, anything of this kind, simple in character and artistic in design, helps to give importance to the place; provided, however, there be not too many of them, for a profuseness looks as if one were offering them for sale, and destroys that "breadth of effect" for which we are aiming.

Speaking of boundaries, don't build a fence between yourself and your neighbors unless it be absolutely necessary. If a ha-ha, or ditch, will not answer, plant a buckthorn or an arbor-vitæ hedge on the line, either of which will, in a few years, form an impassable barrier to intruders, and be less obtrusive than the ugly, whitewashed, tight board fences that we now have. A better plan still would be for two or more neighbors to join together and plant both lots (we speak now of the ornamental portion only) as if they were one, designating the boundary lines, perhaps, by an invisible wire fence or a row of low posts, (tenor twelve inches high,) painted green. We thus obtain broader effects and the appearance of more extensive grounds; in fact, with the cost of a sixty feet lot, each owner has the advantages of a lot measuring twice or thrice that width.

Thus we have endeavored to give in as few words as possible, a hint or two with regard to the improvement of small cottages and cottage grounds. At some future time, we shall present with our designs one or two plans for planting and laying out one of these lots. Our design for this month is a simple cottage of one-and-a-half stories, built of frame, and covered in the vertical and battened manner. The porch over the front door is simple in construction, and should be executed in heavy stock, to give strength to the projecting roof.

The accommodation is as follows:



No. 1 is the hall, six feet wide and eleven feet long; the door on the right leads to the living room, No. 2, a pleasant room, fourteen feet square; this room is furnished with two large closets besides a passage to the wood-house, No. 4, which is a shed with a common lean-to roof, built against the house. From the living room opens directly the kitchen or working-room, No. 3, ten feet by eleven. If desired, this kitchen could be converted into a bedroom, in which case the present living room would be used as a kitchen; this plan, though it produces a less elegant effect than the others, will be preferred by many families, especially if an extra bedroom were desired.

The second floors contain a hall and two chambers, besides three or four closets.

Built in the manner before described, this cottage would cost about $500.

Design of January Number.—With regard to the design in the January number, a correspondent found some difficulty "in harmonizing the whole with its parts" as he says. The whole difficulty is in the parlor; the size should have read fourteen by eighteen feet six inches, instead of fourteen by twenty; an error in copying the description. We shall be happy to furnish complete working drawings of any of our designs, that shall be correct in every particular, and easily understood by any carpenter.

LEGISLATIVE AGRICULTURAL SOCIETY.

[REPORTED FOR THE N. E. FARMER, BY THOMAS BRADLEY.]

The eighth meeting of the series before this Society took place at the Representatives' Hall on Monday evening, and a very numerous company were present to hear the discussion. This was, "*What breeds of cattle are best adapted to the agriculture of this Commonwealth?*"

Mr. PROCTOR, of Danvers, was called to the chair, and said that he regretted exceedingly the absence of Dr. Loring, who had been expected to take the chair, as there was no man in his neighborhood, who had the ability or the personal experience in raising cattle, who would have given more information to the meeting than Dr. Loring. Of course, being unexpectedly called upon to preside, he was not prepared to make any lengthy remarks, but he would say that he had had forty years' experience among farmers, although he was not much of a farmer himself. He considered, as all would who were desirous for the agricultural prosperity of our State, that the question for discusion was one of immense interest, as cattle were next in importance to the land itself—they are the aids in tilling, and the sources of profit to the farmer, and if there are particular breeds which it is more advantageous to keep than others, we ought to know it.

He said that some of the old men present might remember the man on whose farm he first worked —Timothy Pickering, the originator of county agricultural societies, and the father of the State Society. In those days his employer's object was to raise the best stock, and to do this to get the best bulls as well as cows. The speaker's opinion was that the best dairy cows were the old red stock of New England, although he knew some advocated the claims of Alderneys, Ayrshires, Devons, and Short-Horns or Durhams, but on the whole, he thought that substantial farmers had yet to be convinced that these were better than Natives. He thought that three-quarters of the cows in the State were Natives or crosses with that description. There were some gentlemen farmers who strongly advocated the claims of the Alderneys or Aryshires, and he mentioned Dr. Loring, of Salem, and Mr. Fay, of Lynn, as of the number, the former gentleman having the finest cattle he ever saw, but if the farmers thought these were the most profitable cows to keep they would keep them. The fact was, the fancy cattle brought fancy prices, and he thought a farmer would not import a heifer at a cost of more than a hundred dollars, when he could get the best of Natives for $50. He considered that the most profitable cattle for the farmer to raise would be those that he made the most from, as the whole sum and substance of farming was to make both ends meet.

Mr. WHITE, of Petersham, was the next speaker. He thought that in deciding the question as to which were the best breeds, we should consider which had most of the good qualities combined. He thought all had their advantages in various parts of the Commonwealth. In his part of the State they thought the Short-Horn, mixed with the Native, were the best breed for general purposes, and for profit they considered them surely so. It is, said he, exceedingly difficult to get pure Native cattle, and the people in his neighborhood were now, and had been for some time, trying to get pure blooded seed stock, and they were doing this rapidly. They had no doubt that for the dairy the Durham breed was the best —for beef it was excellent, while perhaps the Devon was the best for work; yet not wishing to mix the breeds on their farms, they took the great Durhams. Col. White said that he had stated at a previous meeting of the Society, that he considered dairy farming the most profitable, and in connection with this, had spoken of a friend of his in Barre who kept 16 cows, which had produced last season an average of 440 lbs. of cheese each, which had been sold for 10 cents per pound. This had been circulated in the papers, and he had received a letter (which he read to the meeting) from Mr. Reuben Haynes, of Barre, stating that a neighbor of his who kept 24 cows had averaged the past season 650 lbs. of cheese per cow, which he sold for 10¼ cents per pound net cash, while there were two others in the immediate neighborhood who had done equally as well.

Mr. White said that he considered these cows had returned $88 per head per year, as, apart from the cheese, the calf would bring $12, while the butter would be worth as much more. These cows which Mr. Haynes speaks of, said he, are great Durham cows of a high grade. The speaker said his neighbors were now raising very fine bulls for the purpose of breeding from, but they had no Ayrshires, and he hoped they would not have any.

Mr. W. J. BUCKMINSTER, of the *Ploughman*, said his father was breeding the red Devon, of medium size, and he considered them the best kind, as they are all they were recommended to him to be, and fully meet his expectations. He alluded to the suggestion made by Mr. White, in relation to combining all the best breeds in one animal, and said that it would be almost an impossibility; we may, said he, approximate, but never in the lifetime of any one present would the animal be seen. He thought the half blood Devons were decidedly the best for work, as they are very easily kept, and very docile, and travel very well; and to illustrate this he spoke of two yoke, which had been slaughtered in Belmont a few days since, that would travel so fast as to trou-

ble the driver to keep up with them. He knew of only one pair of pure Devons in the State, as those called Devons were mixed more or less with some other breed. In order to know the best breeds, he thought different breeds should be kept on the same farm, and then the opportunity could be had to test the different qualities of each by actual and nice experiment. He said that he had seen a yoke of fine large Durham cattle a few years since at the New Hampshire State fair, and the large price the owner was offered for them ($200) induced him to sell them; the man regretted having sold them afterwards, as he thought he could not do his work so cheaply with others, yet in the spring he yoked a pair of half Devon steers, and he soon found that they did the work with less fatigue than the Durham cattle had done it, and he could keep three of them on the same feed the two he had sold consumed. The speaker said there was no better beef in our market than the North Devon cattle made, and in the Smithfield market in London this beef brought from half a cent to a cent a pound more than any other, unless it was some kinds of Scotch beef. The average quantity of butter from a Native cow was 5 lbs. per week, while from a Devon double the quantity could be obtained, so that for beef he considered them the best for size, while for butter it remained to be proved whether they would not give as much or more than any other breed, per 1000 lbs. weight, and for milk they were very much better than the Durham. He thought a man should, in the first place, consider what he wants to do with his cows, and then select the breed that will produce the most of the article he has the best market for. The Devon breed were active and remarkably docile, while Alderneys were very vicious even when young, and this particularly was the case with bulls, and in the decision of the question this point was important to be taken into consideration.

Mr. WHITE said that, to show the feeling in regard to Devon cattle in his neighborhood, a townsman of his had 60 head of cattle of that breed, and he did not know a farmer who had mixed with his stock.

Mr. PETERS, of Southboro', said that he had little experience in farming, having only been engaged in it about six years. He had come to learn and not to talk, but when he heard gentlemen speak so disparagingly of the Ayrshire breed, he felt as though he must speak in relation to it. He was aware that each section of the State needed a different kind of cattle, each having requisites that might be locally needed. When he bought his farm he had on it twenty Native cows, but he found they consumed too much for the return they made, while there was no reliance to be placed on their calves. Four years ago he bought four heifers that came from Barre, which were of the Durham breed; on keeping them awhile, he found one to be an excellent milker, another good, another poor, and the fourth good for nothing. He thought the Ayrshire breed was the best for raising milk for the Boston market, for which purpose he kept his cows, as they were reliable for milking stock.

He thought the Alderney was extremely hardy, a small consumer, and to prove this he had been paying special attention to feeding, and he found that with corn-stalks and straw and a quart of shorts per day, they were kept in good condition. He could keep three Ayrshires on less than he could two Natives, and he thought two Ayrshires would give as much milk as any two Native, he had ever seen. He spoke of a farmer in New York who made a pound of butter from six quarts of milk from an Ayrshire cow, while he could make no more from double the quantity of a Native cow. He had kept Natives and Ayrshires side by side, and his foreman, a New Hampshire man, and prejudiced against Ayrshire cattle, had said to him, on his inquiring how the Natives looked so poor and the Ayrshires well, that he had fed them alike, but finding the Natives getting poor he had increased their food, but reduced that of the Ayrshire, thus showing conclusively that they will keep in good condition on much less feed. He spoke of the beef, and said that it was even better than the Devon, as the fat was marbled through, while the latter was on the outside. He closed by saying that, for raising milk to sell, there was nothing like the Ayrshire breed, while they are the most economical and easiest kept of any creatures we have, and will give the best return for the amount invested.

Mr. ASA SHELDON, of Wilmington, said that it was over 40 years since he began to keep cattle, and at that time he commenced mixing the breeds. He first mixed a Native with a Durham, the latter being the sire, but he found the heifer was not so good as the mother, and since then he had always been in favor of the Native breed. He thought the Native was a mixture of the Denmark with the Black Spanish, and this was fully shown in a light brindle color. If he was to mix breeds he would mix native with Ayrshire, as he considered the latter the greatest milkers imported; but if he wanted 50 cows, he would go to the State of Maine and there select them, and he would rather have them than any imported ones. The land he owned was poor, and he used his milk for butter, as he could sell all his skimmed milk and buttermilk advantageously. Five years ago, he had a heifer which made 17 lbs. of butter per week, and last year from 6 days' milk from the same heifer he made 15 lbs., which he sold to a store in Woburn for 30 cents per pound, and

before he left the store, the keeper sold it again for 32 cents per pound. He liked to see Durham cattle, but they would not suit his locality.

Speaking of oxen, Mr. Sheldon said he would repeat his idea of what an ox should be, as he had first stated it over 20 years ago in that Hall. He said that you should stand before him and be sure he has a fine hazel eye, large nostrils, long from the eye to the nostril, broad at and above the eyes, rather slim horns, toes straight out before him, straight in the knees, bosom full, back straight and ribs round and wide as his hips. If you find these points, said the speaker, you need not ask of what breed he is, but if you want one, buy him. He said that he had found that a black-eyed ox was not to be depended on, as he will kick and be ugly, while a short headed ox will start quick from the whip, but he will soon forget it. He thought the Ayrshires were free workers, and that the Devons were tough cattle to work, and tough meat to eat.

Mr. MORSE, of Northbridge, spoke of the Ayrshires in favorable terms, but as for making butter, he thought the Alderneys would make more, "for their inches," as the Englishman would say, than any other breed. He said there was a cow kept in the neighborhood of Boston, that gave over 500 lbs of butter a year, and this had sold for 40 cents, and sometimes, 50 cents per pound. He also spoke in very high terms, of the rich milking qualities of some Alderneys, formerely owned in Worcester, by Mr. Thomas Drew, of this city, and one now owned by Mr. Lincoln, in Worcester.

Mr. LAPHAM, of Fall River, said in substance, that in his experience, he had found the Devon breed to be the best, the Ayrshire crossed with the Durham the next best, and he had a Canadian cow, at least he thought she was from that country, which was an excellent milker. He spoke of the herd of Durhams of the late Mr. Ruggles, of Fall River, which he said gave a large quantity of milk, but it was of poor quality. He considered that the true way to look at this question, was, the best breeds to raise for the public good, as their good demanded quality first, and quantity afterwards.

Mr. TOWER, of Berkshire, being called on, said that it must be expected each man would speak in favor of those breeds with which he had done the best. He stated that there were 130,000 cows in the Commonwealth, from which 15,000,000, lbs. of butter and cheese were annually made, about three times as much of the latter as the former, and there were, moreover, 300,000 neat cattle in the State, and it would be strange with these different interests if there were not a variety of breeds, each thought the best. He did not know how it was in Middlesex and Essex, but in Berkshire they made excellent cheese, and more of it, than in any other county in the State, except Worcester, perhaps. He had had occasion to see and examine into the dairy business there, and he knew 10 dairymen who for the past 10 years had averaged from 500 to 600 lbs. of cheese per season to a cow, showing a return of $60 each cow per year. He spoke of one man, who keeps 24 cows and turns everything on his farm into feed, who often averages $70 per cow. In our section, said he, we prefer the Native breed, but some farmers like to mix a little with Durham. There were a few Ayrshire and some English, which latter were always of a bright cherry red. Those who made cheese seemed to think that no breed was so good as the Native with a mixture of one-fourth to one-half Durham. He said that 10, 12 or 15 quarts of milk per day cannot be produced without feed in proportion to the milk, and there was a very great difference in cows of the same breed in this respect. He had never seen any large Devons, but they considered Durhams better for their work and beef, they mature quicker, and to get good cattle he said it was necessary to pet them and care for them well the first year. The general feed for milch cows, in his county, was one part corn, one rye and another oats, and some add another of buckwheat. Poor hay, he was convinced, would never make a cow give milk, and notwithstanding he liked to see a cow in good condition yet for milking qualities he would take those that looked the worst in the fall, as that was a pretty sure sign they had milked well in the summer. He said that he thought for the wants of Berkshire farmers a cross of the Durham was the best for all purposes.

Mr. QUINCY, Jr., of Quincy, said that he always kept the native stock, such as is found in New Hampshire, Vermont and Maine, on his farm, and he got between 500 and 600 quarts of milk per day, and he could increase the quantity 60 quarts on two days' notice by change in feed, but this would have to be done at the expense of the quality. A milkman can as well adulterate his milk in the cow as out, as the whole was done in the feed.

Mr. TYLER, of Uxbridge, was in hopes to have heard more statements of actual experiments. He obtained from his cows 25,000 quarts of milk per year, which he sold on his farm for 3 cents per quart, and his cows cost him from $12 to $16 each in grain, getting the balance of their sustenance from grazing. He thought they produced him at least $60 each per year.

The subject for discussion at the next meeting is "*Underdraining*," and Judge French, of New Hampshire, is expected to preside.

CARRYING THE WHIP.—There is more in the movements of the driver of an ox-team, and in

carrying of the whip, than most farmers think. Oxen, however quick in their movements, or upright their walk in the yoke, soon become dull, and get the practice of "shoving" or "hauling" in consequence of the driver lagging along, or, as is often the practice, going ahead of his team, and from time to time stepping back and whipping them. A driver of an ox-team should walk directly opposite the yoke, walk straight, and carry his whip as upright as a soldier would his gun. Use a whip-stock with a short lash, and touch the cattle only with the lash, and never strike them on the nose or over the eyes.—*Ohio Farmer.*

THE TOMATO—ITS USES AND CULTIVATION.

The following letter on this subject will be read with interest by all who have contemplated the influence which the universal cultivation of the Tomato is destined to have upon public health and economy. Probably few persons have bestowed more attention on the tomato, than the writer of the subjoined letter.—*Working Farmer.*

DEAR SIR:—Since you and many other cultivators of the tomato, have expressed your surprise and satisfaction on examining some of my seedling tomatoes, and a desire to know their origin and proper treatment, I will with pleasure, comply with your request.

Until within a few years, very little was known in this country about the tomato. It was grown as an embellishment in some corner of a flower-garden, and called the Love Apple. Now, it is an article of daily food; and in a few years it will be in common use in almost every part of the globe. Its culture and use will everywhere extend, just in proportion as reliable and exact information on the subject is spread. It does not take long now to scatter facts. The human race is coming near together, and all facts concerning our common welfare should be freely disseminated. I have grown the tomato, and watched its culture in many of the climates and countries of Europe and America, and I will furnish my little quota of observation and practical experience, hoping thereby to draw out valuable information from others. Everybody knows something of the value of the tomato as a fruit, and how we should miss it if it were raised no more. But very few persons know how easily and abundantly it can be grown in perfection, how cheaply it can be preserved for future use in many forms, and its invaluable medical properties as conducive to health and vitality. I will speak only on two or three of these points.

1st. *The best Kinds and Varieties.*—Six years ago I began a more thorough system of experiments than I had ever practiced or seen. I prepared my beds for growing tomatoes, and the analysis of the soil corresponded very closely with the chemical components of the fruit. I then germinated ten or twelve of the finest varieties I had, or could get, and obtained large, vigorous plants of the same kind from our New York gardens. One of each was planted by itself, where it could not hybridize. In another bed *I planted all the varieties together to make them hybridize, and multiply new kinds.*

I succeeded in getting one variety, which I found superior to any I had ever seen, in the following qualities—*delicacy of flavor, thinness and smoothness of skin, fewness of seeds, solidity of meat, earliness of ripening, richness of color, evenness of size and ease of culture.*

2d. *My mode of culture.*—Germinate in a hot-house, hot-bed or kitchen; for very early fruit, transplant when quite small into pots. The tomato improves by every transplanting, and each time should be set deeper. From the time four or six leaves appear, pinch or cut off the larger lower leaves and the terminal buds, and continue this process of pruning, till the fruit is far advanced; so that when ripe, the bed will seem to be covered by one mass of large, smooth, even-sized tomatoes, of the richest pomegranate color—and the leaves hidden by the fruit.

Set the plants three or four feet apart, in the warmest spot you have, and let them fall over to the northern frames twelve or fifteen inches high; or on pea brush or anything to sustain them; keep the fruit from touching the ground, which delays ripening, creates mould, invites cut-worms, and always gives the tomato an earthy taste. Try for only one cluster, (the first that blossoms,) and cut everything else gradually away. This will give you tomatoes in perfection in the latitude of Buffalo, four or six weeks earlier than they are usually ripened in our climate. If you wish late tomatoes, pull up each plant by the root (just before the frost comes) and hang them up on the south side of a building, top down, with a blanket to roll up days and let fall nights. When ice makes, hang them up in any room that does not freeze, or in a dry cellar, and you will have fresh tomatoes all winter—somewhat shrivelled, but of fine flavor.

C. EDWARDS LESTER.

ROWE'S PATENT DRAIN TILE.

Most enlightened cultivators are of the opinion that great advantages are to be derived from the drainage of our lands; not merely the swamps, meadows, and low grounds,—but large portions of the uplands, such as have been used for tillage and grass lands for many years. Wherever this latter class of land is underlaid with clay, it needs draining, even though a spring cannot be found upon it,—for the surface water passes down to the stratum of clay, is there intercepted, and goes off so slowly as to become almost like stagnant water,—is cold, prevents the proper atmospheric action upon the soil, and is exceedingly repulsive to the roots of plants. They will not penetrate into it. If this water is taken away, the proper circulation takes place, the subsoil cracks, becomes light, is enriched by the ammonia in rain water, and the heat which is left by it as it passes down, and makes a new farm underneath, which undrained land does not possess. The surface soil is also greatly benefited by being made more porous and mellow, is enriched by receiving valuable fertilizers from the air and dews, and becomes capable of withstanding drought longer than undrained lands.

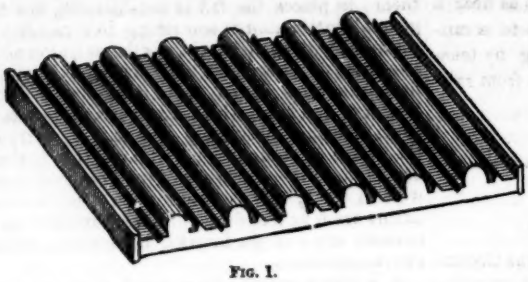


FIG. 1.

These opinions are now common, and are leading men to look with interest for something that is effective, cheap and portable, whereby they can secure the desirable results already mentioned at a paying cost.

So far, among us, we have only used the *sole tile*, and those have been made in so few places, that their transportation often costs more than the tile themselves. We need some form of tile to answer the purpose of draining, that will enable any farmer to make them himself, on any farm where suitable clay can be found; that is, to make them in common moulds, similar to the brick-maker's, or by some simple and cheap machinery which he can manage himself.

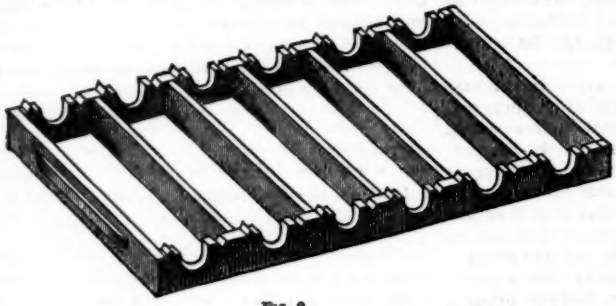


FIG. 2.

This desirable result seems to have been attained in ROWE'S PATENT DRAIN TILE, which we have figured on this page.

A machine to make tiles a foot long is similar in every respect to a common brick machine, and will cost but a trifle more—say forty dollars, or even less, including three sizes of moulds. The manner of making the moulds will be best understood by brick-makers by observing how brick moulds could be changed into tile moulds if they were as long as tiles are made.

Fig. 1 represents the slide fitted up with cores, tongues and grooves, each equal to the number of tiles to be struck at once.

Fig. 2 represents the mould fitted to receive the slide.

Fig. 3 represents the two united, forming a tile mould complete, requiring but the same motions to make tiles that it does to make bricks. Those who mould bricks by hand can mould these in the same way, from the smallest aqueduct size, up to the size used for street culverts, without any extra outlay except for the moulds. The stock that will make two common bricks will make one foot of 2½ or 3 inch tile of the oval, or most approved form—large enough for sub-mains, and not objectionable on account of size, for minors—being the two sizes mostly used by farmers.

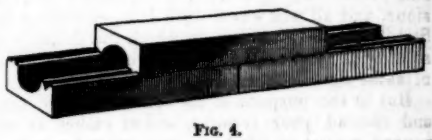


FIG. 4.

Fig. 4 represents a section of drain laid, showing how the tile break joints upon each other, holding all in line and affording two feet of extra seam to every foot of drain, allowing the joints to be laid so close as to keep out the dirt without danger of excluding the water.

We learn from the general agent, Mr. A. K. GILE, of Alfred, Me., that the different sizes of this new tile can be afforded so low as to compete with the prices of any tile yet introduced among us. If this be so, the points gained will be,—

1. The locking of the tile together by means of their seams, and thus preventing their being moved after they are once laid.
2. Their being made on any farm where suitable clay is found.
3. In burning or baking them without the use of an oven, as they are to be burned upon the sides or ends, as common bricks are burned.
4. The saving in transportation,—as in many cases now, transportation costs as much as the tiles themselves. It

FIG. 3.

is probable that most farmers live as near a brick yard, or clay pit, as they do to a railroad station,—so that the hauling by team would be only about the same as from railroad stations.

For the New England Farmer.

DRAINAGE.

LETTER FROM NORTH CAROLINA.

HON. HENRY F. FRENCH:—*Sir*,—If the Greeks would always bring us such gifts as you presented in your treatise on Farm Drainage, our country would be the happiest and most prosperous in the world. I do not intend to write you a political essay; being an old Federalist, I am of course but a "looker-on in Vienna." For your comfort, I will venture the assertion, that, from my standpoint, I plainly see that after crimination and recrimination, there will be mutual concessions, and all will wheel into line, excepting the State of South Carolina, in which the delusion is so morbid as to require some two or more years of suffering to effect a cure.

But to the purpose of my letter. I have read and re-read your treatise, and at rather an advanced period of life have inaugurated a system of underground drainage, which I cannot in the course of nature expect to complete, but which I hope to leave in such a condition as to induce those who follow me to perfect; and thinking that your position justifies me, I venture to ask a few questions, which I hope will not be considered an intrusion.

1. I cannot without a very heavy outlay of cash procure tiles, unless I can manufacture them myself. I have substituted pitch pine lumber; sawed 2, 3, 4 and 5 inches wide by one thick; by putting the 2 and 3 inch pieces together, I procure a vent (for side drains) of 2 square inches; 3 and 4 gives me 4½ inches, and 4 and 5 of 8 square inches. I put the plank together at right angles, thus ⋀, using no bottom plank, unless (which is rarely the case) the bottom is miry; the angle is at the top, and generally the bottom being a hard clay, with the slight fall I am obliged to give the drain there is no wearing of it; the cost of the materials, exclusive of carting, is, respectively, 2½, 3½ and 4½ cents per lineal yard; this is exclusive of the cost of nails; the labor of putting them together, excavating and filling is done by my "African fellow-creatures," who excavate 4 feet deep, 22 lineal yards a day. The obvious objection to this plan is the liability of the plank to decay. If I could be certain the plank would never get dry, I should be also certain that they would be indestructible. I should like to know your opinion on this subject. I have inaugurated some extensive experiments to ascertain that fact, but it will take some years to obtain accurate results.

2. My farms are generally what we call river land, viz.: either alluvion proper, and more subject to inundation, or lands which were, to all appearance, in years long gone by, formed by the river. Generally it lies in ridges with intervals, the inclination being with the course of the river; these ridges are in places very obvious; in others it requires a nicer observation to detect them; in places the fall is considerable, but the general inclination is something like two feet to the mile; with small exceptions the soil, after some two feet, is a very firm and tenacious clay. I have excavated large, open ditches, the whole length of the farm, which I dare not cover, as at times they are absolutely necessary to carry off the water of inundation. I carry the covered drains into these ditches, or some branch of them, which I think safe to leave open; the covered drains are four feet deep. I always run the main covered drain in the interval between the ridges above mentioned.

3. I cannot procure either small stones or gravel to commence filling up with; I have generally to use cornstalks, and principally what we call shucks, and you call husks; to a limited extent I have used the leaf of the pitch pine, and to a more limited extent, pitch pine saw-dust. I could very easily use corn cobs, either just clean or in various stages of decomposition; they rot rapidly.

4. The country being so flat, a rapid fall cannot be given to the drains; if it should be tried they would soon run out to the surface. I have adopted the rule of giving one inch in every thirty-two yards, and if I cannot maintain a depth of four feet at that rate, I cut at right angles to an open ditch in a lower level, cover the cut, and go on again.

Now, my dear sir, having given you the principles which, in adherence to your treatise, I have adopted, and the general character of my land, there arise a number of questions which I may now venture to address to you, viz.: How far in a close clay soil will a four foot drain probably affect that soil? In putting down lateral drains from the main drain, (vide No. 3 above,) how far is it best to run them on, and into the ridges above mentioned? What distances should the lateral drains be apart, so as to insure upon such land a discharge of the entire fall of rain without the aid of open ditches? I have thus far put them 60 feet apart. Is a fall of one inch in thirty-two yards sufficient without a great many lateral drains? Supposing two open ditches, 100 yards apart, without any perceptible falls between them, would a perfectly level covered drain connecting them, maintain itself open, so as to be valuable, or would it be best to drain from the bottom of one to say within six inches of the bottom of the other, (alternately,) giving each all the fall that can be obtained?

I wish very much to manufacture my own tiles, preferring tiles to lumber. Have you any additional information as to tile machines? and is clay which will make a good brick suitable for tiles? There are other matters which may rise from the points above mentioned, which may strike you, and pass unnoticed by me; any information will be most thankfully received. The main doubt in my mind as to my system is whether I am not wrong in using lumber rather than tiles. I find the cash cost of tiles to be about double that of plank; there is less carting, and the tile are put down more rapidly.

There is one peculiarity of my position which renders me rather anxious. I live at or near the extreme northern limit of the cotton culture. By rendering my land dry, and of course warm, I give length to the season, and make the crops more certain. I have a kind of land, which I

think is the best in the world; a deep sandy loam upon a heavy clay, say three feet under the surface. Is it worth while to underdrain such land? I make no excuse, my dear sir, for troubling you, because I act upon the great rule of doing as I would be done by; and your position is such as, in a measure, to justify inquiries. Should you be able to answer this, be pleased to address me at ——, North Carolina. Believe me,

Most respectfully yours,
——

North Carolina, Jan. 26, 1861.

ANSWER.

Boston, Mass., Feb. 16, 1861.

My Dear Sir:—Your very acceptable letter of the 26th ult. was received at Exeter, where I was attending court, but where I do not now reside. Although I desired to reply forthwith to your inquiries, and to show you that there were no treacherous foes concealed in my "Greek gifts," as in the Trojan horse, I have not had the time in which to do it.

As to secession, every letter I receive from the South, and they are frequent, on the subject of agricultural improvement, gives me a new feeling of regret that we, who are united by so many bonds of interest and fraternity, should so foolishly cast away the blessings and the glory of our great birthright, and sink ourselves into enemies to each other, and our glorious country into insignificant powers among the nations. Your State has thus far done nobly, and I trust your prophecy of future peace may be realized.

You will not, I trust, deem it a breach of confidence if I publish the greater part of your letter, without your name, to show how, all through the country, we find an interest in the subject of it.

1. Your wood drains will operate perfectly so long as they are unobstructed. On a clay bottom they will probably not fill up, but if by the working of moles or other animals, the surface water should find passage down to them, they are liable to be obstructed and ruined. I understand you are on the Roanoke river, navigable far beyond you by canal. At Albany, N. Y., you can contract for tiles, at say $10 per 1000, for two inch, on board a schooner. The freight you can estimate. I think you could get tiles from Albany, and lay them nearly as cheap as your wood drains. The excavation will be less. The tiles are indestructible, and their operation perfect. I can suggest a better course than this, and that is to make the tiles on your own estate. In England this is often done, where large tracts are to be drained. With New England "help" you could readily do this, but whether your "African fellow-creatures" are reliable enough for such new enterprises, I do not know. I certainly would use tiles if possible, in the inauguration of your extensive operations. What you do, will then be done for all time, whereas your wood conduits will be like the cathedral at Cologne, needing repairs at one end, while the other is yet incomplete. Tiles are freighted to Boston by schooners, every season, from Albany, although we have tile works in several places in the State. My advice is, "Get tiles if possible, if not, use wood, as better than not draining." I have no certain information as to tile-making, beyond what my "Farm Drainage" contains. A new kind of tile made of cement and sand or gravel unburnt, is made in Boston. Whether it will prove durable, I dare not say. I have never yet known any clay that would make good brick, fail on trial to make good tiles, though the tile-makers will certainly tell you that it requires some very peculiar clay, such as you cannot find, to work into tiles. If you have brick-yards near, you can get a machine and have the tiles moulded, and burn them in the kiln with bricks. I have seen this successfully practiced, both in England and this country.

2. If you run tile drains into your open ditches, see that the latter are kept clean, so that the tiles may not be obstructed. With this view, I should let the open ditches be a foot deeper than the tile drains.

3, 4. What are called close clays differ very much in consistency, and nothing but actual trial will decide for you. I have never in this country seen drains four feet deep fail to drain perfectly, at any distance. I have laid them at 50 feet, and they operate well. In England they are sometimes put as near together as 16 feet, but that is in land which you and I should move away from, as hopeless. Over tiles I should not put corn "shucks," stones or gravel, but merely the surface soil first—anything but puddled clay. Saw-dust or straw over your wood drains will do well enough. In laying drains from one open ditch to another, I should divide the fall, laying the drains highest in the middle, falling to each ditch if the land is level. In your State, where frost will not trouble you, I should in 100 yards distance make the drain three feet deep in the middle, and four feet at each end, giving a foot fall in 50 yards. In large main drains, water will run freely, if perfectly level, if there is fall in the laterals which run into them; for manifestly that fall is so much head for forcing out the water in the mains which lie lower. As to your sandy loam of three feet on clay—such land is very easily drained, by cutting a few inches into the clay for the drains. Probably at 100 feet distance, drains would essentially relieve such land of surplus water, and give you a warmer soil and longer season.

I have thus endeavored to reply to your inquiries. In clay land, you will find increased efficiency in your drains every year, the soil becoming more and more open by the passage of wa-

ter through it. If I can in any way be of service to you in future, I hope you will call on me without hesitation.

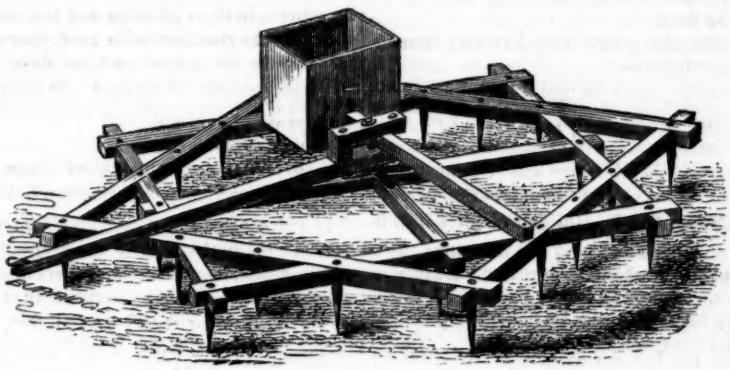
Among my pleasant anticipations is this, that at some not far distant day, when peace shall again smile upon us as a happy and united people, I may visit the homes of the "sunny South," observe your "peculiar institutions," and meet face to face, gentlemen like yourself, in whose devotion to the interests of agricultural as well of national prosperity I so deeply sympathize.

I am, with much respect,

Truly yours, HENRY F. FRENCH.

HOGLE'S ROTARY STAR HARROW.

This new harrow, which is advertised in the appropriate department of this paper, and which we



now figure above, we have never tested in the field, and have, therefore, no personal knowledge of its merits. We insert, however, what others say of it, cheerfully, because it seems to us to be a good implement, and that all may have an opportunity of availing themselves of so important an article, if it really does prove to be what it is represented.

This harrow is highly recommended by those who have used it, and the following is said of its peculiar advantages:

Among its many excelling qualities over all other harrows, are the following: It has no side draught, but follows straight in the line of draught of the team; it will not clog, but has a steady, uniform and continual rotary motion as it is drawn forward; it will harrow and cross harrow at one passage; will not hitch on to any obstacles, such as trees, stumps, roots, stones, &c.; will cut or rend to pieces the heaviest sod, and finely pulverize all lumps of earth; will evenly distribute over the ground, and in a great measure bury or cover up manures or composts of any kind; will level and render smooth the surface of the ground, filling up all inequalities; its teeth never follow in the track of the teeth of the preceding passage; will distribute more evenly and cover deeper seed of any description, and doing it in every respect far better than any other harrow in existence, it also prepares the ground better for the reception of seed than any other; is a self teeth sharpener; will pull up corn stalks or stubble of any kind, shake the earth from the roots, and leave the same evenly scattered on the surface of the ground; has one third less draught than any other harrow of like weight and number of teeth; is much more convenient in the handling, the draught bar being flexible, and therefore turning with the team without moving the frame. In short, summing up its excelling qualities into one sentence, it is asserted with perfect assurance, that in one passage over the ground it does three times the work of any other harrow extant. All these things will at once become evident to any one upon close examination, particularly upon seeing it in practical operation.

The box attached is intended for the reception of any material having weight, such as stones, sod, gravel, &c., the quantity varying in accordance with the quality and condition of the ground. On loose light soil the box should be slipped (being movable,) out to the end of the weight beam and lightly weighted. On hard, heavy soil, the box should be moved, on said beam, as near to the centre as possible, and heavily weighted. Of course the judgment of the user must in each case determine the position of the box, and the quantity of weight necessary. By changing the box on the weight beam, from one to the other side of the harrow, the direction of the revolution is correspondingly changed, which is often desirable, as for instance, on a hill side.

For the New England Farmer.

SHEEP CULTURE---DOGS AND POVERTY.

MR. EDITOR:—The reports of the Legislative Agricultural Society, as published in the *N. E. Farmer*, are attracting much attention here in New Hampshire, by which it appears that dogs are no less a curse in Massachusetts than here. Can any respectable man, who would be considered a good citizen, encourage, by example, the keeping of a dangerous beast, much less a useless dog, to the annoyance and injury of his neighbors? Will he say in excuse, that dogs are a safeguard against thieves? or that they some-

times save life from drowning? It may be so. But is not the amount they destroy tenfold more than what they save by their protection? and are there not ten lives lost by the horrible death of hydrophobia to one saved by them?

I know not whether dogs take to meanness or meanness to dogs, but this I know, I rarely see a strolling vagabond without one or more dogs at his heels, or pass through a beggarly neighborhood, where shingles and clapboards had left their dwellings, doors and window-shutters their hinges, and rags and old hats supplied the place of glass, without having to run the gauntlet through a swarm of "mongrel puppies, whelps and hounds, and curs of low degree." We all know, when a man begins to grow poor, he will get him a dog, and when very poor he will get him two, and when so poor that he cannot live without going to the poor-house or begging, he will go to raising dogs.

Dogs, and in general their owners, are a nuisance, and if I were capable of writing for a paper, I should like to give a piece of my mind, or if I were Henry Ward Beecher, I would try to make myself useful, and preach against dogholders instead of slaveholders.

You may rely upon it, that those reports are highly apppeciated. HENRY S. PERRIN.

Orfordville, N. H., Feb., 1861.

For the New England Farmer.

INFLUENCES OF FARM EMPLOYMENTS.

Seeing an article in the *Farmer* written by a young farmer, in which he speaks of the idea of degradation attached to labor, I thought I would express my ideas upon the subject. The truth of his remarks cannot be gainsayed. Why it should be so, is to me incomprehensible. The history of ancient and modern times is filled with instances of men who, having been called from the plow or the work-bench to perform some great act, and having performed it, returned again to their avocation. The greatest gentleman or lady of the land has to depend upon labor for everything they eat or wear. Farming is the foundation of all industrial pursuits. Whatsoever advances the farmer's interest, advances the interest of the whole.

This "Young Farmer" goes on farther to ask the question, would not the public good be much better promoted by dispelling this idea, than by founding agricultural colleges or adding agricultural departments to those in existence? I ask, would not the founding of these schools and colleges have a greater tendency to dispel this illusion than any thing else? Many people think any clown can farm. They think so because they see the great mass of farmers have a more limited education than any other class. This is not as it should be. If anything, farming requires more science and skill than any other pursuit. Any one can become a very good mechanic after two or three years' apprenticeship, but to become a skilful farmer, one has to commence in boyhood, and work at it until manhood, and then not conquer one-half of its details. If he wishes to try anything new, he has to experiment upon it for years before he can come to any satisfactory result. Let us have our agricultural schools and colleges, then, where we can go and learn to analyze our soils, our crops, and fertilizers, and know the constituent elements of each. Then shall we understand what principle each rod of land possesses in abundance, and what it lacks. We can then apply the right manures in the right places to produce a certain crop. Then will farming be raised to its proper standard in the estimation of the people.

Harvard, Feb., 1861. E. R.

For the New England Farmer.

THE AIR PRESSURE CHURN.

MR. EDITOR:—The communication of "K. O." in your paper of Feb. 23, in relation to the Air Pressure Churn, deserves our thanks and our prompt notice. The author is entirely unknown to us, and we have no reason to suppose that he is the possessor of a churn that has been manufactured by *us*. The few churns of this class which were in Boston market last year, were made by other parties, and were not constructed from as good materials nor with such thorough workmanship as those which we are having made on our own account, and on which we base the prices and the remarks in our circular which was in your paper of Jan. 12th.

The implied questions, and the points taken by "K. O.," are all pertinent and well considered, and we are thankful that he gives us fair occasion to notice them.

1. The price. Our casks are of the best white oak, put up by the best of coopers. The fitting of the heads, the driving of the bolts, and all other parts of the work demanding that there shall not be the fraction of a pin-hole for the escape of air, cause the first cost of the body of the churn to be much greater than that of ordinary oak barrels or kegs. Then, to go with this, is an air-pump, calling for costly rubber and accurate work. Also, on the churn is one patent, on the pump another, each of which has *cost*—including the labor by which the shapes and modes of application, have been reached—several thousand dollars.

The positive fact is, that taking the actual cost of the churn, the pump and the necessary attachments, the profit to the manufacturer is *less*, on this churn, than on the average of agricultural implements. We have, in fixing our prices, kept in mind the motto, "quick sales and small profits."

We know that most farmers will consider $12 or $15 too much to pay for a churn. It seems too much, and yet, perhaps they cannot afford to do without this churn. For, if there be, as experiments thus far seems to prove that there is, from 7 to 10 per cent. gained in the quantity of butter by the use of the Air Pressure, then the farmer who keeps five cows and makes from them 700 lbs. of butter per year, will have gained about 50 pounds of butter in a single season, and that amount of butter will buy the churn. This state of facts will show the farmer that ten years' use of this churn will earn for him $100, and, therefore, it is for his interest to buy it, even though the price *seems* high. The purchaser will get more than nine-tenths of the profit, if the apparent facts shall be established by general experience, as we believe they will.

2. The brass hoops actually cost a little more *extra*, than our extra charge. The iron hoops give us a little more profit than the brass.

3. The method of putting in the head, or rather the bottom. At present we are conforming to the shaker method as far as is consistent with strength and durability.

We will close, by adding that we feel confident of the truth of the remark recently made by a distinguished agriculturalist of New England, that "as soon as the real merits of the Air Pressure Churn are known, it will supersede all other churns in use."

N. E. AIR PRES. CHURN CO.,
51 & 52 North Market Street, Boston.

For the New England Farmer.

BREED OF CATTLE

BEST FITTED FOR THE FARMS OF MASSACHUSETTS.

No one who has taken an interest in the agriculture of the State, for the last 40 years, can fail to appreciate the importance of this question. Next in value to the land we till, is the stock upon it. What breed of stock, all things taken into view, is it best to obtain? That is, suppose a man is starting in life, to pursue the occupation of a farmer, to secure a living thereby, what class of animals shall he introduce upon his farm? There are the Durhams, or short horns, the Devons, the Ayrshires, the Alderneys or Jerseys, and last, though not least, the New England or natives. Each of these have their good points, and each have their exceptions. A very large part of all the animals on our farms are what are called natives, and such as have sprung from crossing with the other classes. When we say natives, we do not mean that they sprung from the soil, but they descended from importations made so long ago, that "memory runneth not to the contrary," and they have become acclimated here.

So far as I have seen and learned, after much observation of animals, I am of the opinion, that the natives are the best animals to introduce upon our farms. In the first place, they can be obtained at half the expense of either of the other classes. No man can import an animal from Europe, at less than $100 expense. The best of natives can be bought for $50. If a herd of 20 head is to be formed, here would be a saving of $1000 in starting, or $60 a year, an item worthy of consideration by those who work for a living; and it is for their benefit alone that the subject is worthy of discussion.

It was a favorite idea of Col. Pickering, one of the pioneers of agricultural improvement in Massachusetts, that as pure animals can be reared by selecting the best of our native stock, and paying attention to their breeding, as could be obtained in any other manner.

First, see to it that your bulls are of the right age and form, and properly trained for the service expected of them. They should be fed with as much liberality and care as any other animal, and they should not be over worked. They should be of the right parentage. Many seem to think it of no consequence, if he be but a bull, whether he have a straight or crumpled horn, whether he be raw-boned or gawky, plump or sleek, whether he have descended from a good milking family, or otherwise. Now the milking properties of the offspring depend quite as much upon the bull as upon the cow that bears them. I have known good milkers thus to be continued in the same herd, for many generations.

Feb. 25, 1861. P.

EXTRACTS AND REPLIES.

HUNGARIAN GRASS.

I wrote you about this grass last year, but having more experience now, I write again. Last spring I sowed the seed about the time of planting corn, on sward land just plowed. The year before the land yielded half a ton of hay to the acre, where I cut over two tons of the Hungarian grass! On a rich, strong soil, I have cut four tons to the acre, on good sandy loam three, and on a rather poor sandy soil, one and a half to two tons. Cut early, cattle and sheep eat it better than other hay. Cows fed on it after the seed is threshed out give more milk than they did on stalks, or other hay. It is a very easy crop to raise. The seed will weigh fifty pounds to the bushel. A neighbor sowed five bushels of seed on ten acres, and thinks he cut twenty-five tons of hay. Some of this he allowed to ripen, and threshed from it seventy-five bushels of seed. Another neighbor plowed green sward, sowed in June and raised a large crop. Sowed in May or the first of June, and cut early, the hay will be better than clover or herdsgrass. The seed sells for from $4 to $5, per bushel, some of which may be obtained in this vicinity.

Painesville, Vt., 1861. H. GRIFFIN.

LIME AS MANURE.

I have just commenced farming and want you to tell me about lime for manure. Fresh burnt lime costs here seven cents per bushel; will it pay to use it freely? On what kind of soil is it best? To what kind of crops is it best adapted, and is it good for all? What is the best manner of applying it, and how many bushels to the acre? Is is good for old apple, pear and cherry trees? Will it make good compost mixed with mud from the banks of a river? If so, in what proportion?

The farmers of New England give more attention to the different kinds of manure than those of other sections of our country, and seem always ready to impart information, so I want to benefit by their experience. A. H.

Norristown, Pa., Feb., 1861.

REMARKS.—We will lay before our correspondent what Professor JOHNSTON says in relation to the effects of lime upon different soils, and then he can judge for himself whether it will be profitable to use it.

The purposes served by lime as a chemical constituent of the soil are at least of four distinct kinds:

1. It supplies a kind of inorganic food which appears to be necessary to the healthy growth of all our cultivated plants.

2. It neutralizes acid substances which are naturally formed in the soil, and decomposes or renders harmless noxious compounds which are not unfrequently within reach of the roots of plants.

3. It changes the inert vegetable matter in the soil, so as gradually to render it useful to vegetation.

4. It causes, facilitates, or enables other useful compounds, both organic and inorganic, to be produced in the soil, or so promotes the decomposition of existing compounds as to prepare them more speedily for entering into the circulation of plants.

The fertilizing properties of lime, then, appear to arise, in a great measure, from the force with which it attracts carbonic acid from the atmosphere or soil to which it is exposed. This attraction for carbonic acid is so powerful, that if lime be placed in contact with animal or vegetable matter, they are decomposed or dissolved with great rapidity, and reduced to a fit state for entering the roots of plants. It is for this reason that we see such good results from the application of lime upon soils where green crops have been consumed on the land, or where any of the various plants used for that purpose have been plowed in green. It also produces equally good effects, and for the same reason, in soils newly broken up; in fact, in all soils rich in humus or vegetable matter.

But the chemical action of lime is not confined to the decomposition of vegetable and other organic matter in the soil. It appears to be clearly established by the experiments of agricultural chemists, that this substance has also the property of setting at liberty the alkalies which are present in exceedingly small quantities in the soil, favoring the formation of soluble silicates, which are useful to all of our crops of grain. Lime, however, not only acts chemically, but to a certain extent it is also useful by altering the mechanical nature of the soil. For instance, it renders clayey soils less tenacious; and it is also stated that it makes sandy soils firmer, and loamy soils soft, mellow and light. Such is briefly all that is known at present concerning the chemical properties of lime.

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ABOUT A LOW BROOK MEADOW.

I have a few acres of low brook meadow, much run out, on a part of which the long white moss is struggling hard for the ascendancy. I have partially drained it, cutting ditches and lowering the bed of the stream. There were obstructions in the brook which caused it to overflow at every freshet, and the ground thus overflowed yielded large crops of grass. I have recently built a dam by which the whole meadow can be overflowed at pleasure.

Now, what I want much to know is, at what time and how long should the water be kept on? How can the moss be exterminated? There is yet a very little fowlmeadow grass in small patches; if the ground is kept sufficiently moist, will this grass spread of itself, or should seed be sown? If so, how much seed to the acre, and where, and at what price, can it be obtained?

Royalston, Feb. 16, 1861. J. WOOD.

REMARKS.—Put the water on while the plants growing upon the meadow are in the flush of vegetation, and let it remain until the next spring. To kill the plants effectually, it is best to keep the meadow covered during the hot weather. We have known some meadow land covered with water three years, before the plants, including bushes, growing upon it were killed. The plants in other meadows are sometimes destroyed in a single season. Do not depend upon the patches of fowl-meadow now starting, but clear up the land and sow afterwards a bushel of seed at least to the acre. It is scarce, but you may find it at the seed-stores.

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HOW TO RELIEVE CHOKED CATTLE.

There has been considerable discussion in the *Farmer*, of late, about cattle choked, and the best remedy to relieve them. I have read all the remarks that have been made on that subject, but they did not agree with my views as to the best remedy.

The instant a creature becomes choked, no matter what with, the throat beomes dry, and the longer the substance remains, the dryer the throat. The following is a sure remedy. Take some oil, no matter what kind, and hold the creature's head up and turn down about one gill of oil, and then let go of the head, and the creature will heave it out in two seconds! I have tried it for years, and never knew it to fail. H.

Poland, Me., Feb. 9, 1861.

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WORMS IN HORSES.

I have a horse that is troubled with worms. I have tried various methods to cure her, but with no success. She was formerly very free to travel, and in good spirits, but now she is slow, and seems to have lost all animation. Will you recommend a remedy through the columns of your valuable paper. A SUBSCRIBER.

Exeter, Feb. 2, 1861.

REMARKS.—Sift wood ashes, and mix one gill of it with the horse's cut feed; one dose every other day for a week. Watch the result.

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FOUL OF THE FOOT IN CATTLE.

A correspondent in the *Monthly Farmer* for February wishes to know a cure for foul of the foot in cattle.

The following is an almost certain remedy:—Take a small quantity of soft soap, and stir in as much fine salt as it will take up; clean out the creature's foot and rub in the mixture. Two or three applications will effect a cure, usually.

Why would it not be good for scratches in horses? M. H.

Pelham, N. H., 1861.

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ON SETTING FENCE POSTS.

Principles will satisfy some persons on questionable points, where, for want of opportunity, they could not have demonstration. But where and when it is available, it is worth seeking. Reliable testimony comes next. This article is to add my own experience from early life, by way of endorsement, to some good articles (commended by yourself) for some inquirers, "On setting fence posts," with ditches and small stones, and in some situations with holes and stones, and no ditch. Always but end up; best with me cut and

peeled in June, and seasoned; young chestnut lasts better than old oak—of thrifty growth, it is quite superior. BENJAMIN WILLARD.

For the New England Farmer.

RETROSPECTIVE NOTES.

WISDOM FOR WINTER.—At page 59 of current volume of the *Farmer*, there are some excellent hints for the preservation of health and the promotion of comfort—hints so evidently the product of a mind well stored with wisdom and the best lessons of experience, and so well suited for use in winter weather, as to make the title —*Wisdom for Winter*—very appropriate indeed. Of the value of one of them, my own experience, together with the results of some inquiries as to the experience of others, enables me to speak with confidence. I refer to that counsel which forbids the wearing of India-rubber boots (over shoes included, I presume) in cold, dry weather. For rubber boots or over-shoes in wet, rainy weather, or in a sloppy condition of the streets and roads, it may be difficult to find any preferable substitute; but in dry weather, however cold it may be, rubbers are liable to objections of so much weight as to make it very unwise to continue the practice of wearing them. The weightiest of these objections is derived from the fact that these articles confine the perspiration of the feet so much as to render the stockings more or less damp, according to the length of time that the rubbers are worn. The present discomfort from this cold bath of condensed vapor is but a small matter, when compared with the injury to the health which ultimately, sooner or later, results from this "going contrary to nature." As an example of this injury, I may state that a case of incipient consumption, some years ago, became an object of special inquiry as to the cause which might have produced it, inasmuch as the young woman was not hereditarily predisposed to consumption, nor a likely subject for such a disease. After much investigation, it was discovered that this patient had been in the practice of going out among the neighbors to spin, and that finding rubber over-shoes the most comfortable and convenient article for her feet while spinning, she wore them the greater part of the day for a whole summer. This led to taking cold upon cold, and thus to settled consumption.

SHELTERED FARMS.—In the *Farmer*, Feb., 1861, on page 59, I find an article with the above title in which it is alleged that the orchards in Michigan have suffered severely since they have been deprived of the natural protection afforded by the primitive forests, when the country was new and the clearings were small. I have no doubt that the shelter of a belt of timber is of considerable value in protecting orchards from injurious exposures to piercing winds; but if any one should get the impression from the article referred to, or any other of similar tenor, that premature decay or death in fruit trees is more frequently owing to want of shelter than to any other cause whatever, or to all other causes together, I verily believe that such an impression would be, not only erroneous, but also pernicious by its tendency to mislead. This tendency I have seen in actual operation, leading, or rather misleading neighbors to attribute the death or premature decay of their fruit trees to severe cold weather, when but for this erroneous impression, they might have carried their search after the cause of the death or decay of their trees still farther, and might, too, at length, have arrived at the truth in regard to said cause—which truth, like truth on all other subjects, would have proved of far more benefit to all concerned than any error, however ingenious or however plausible. In the case referred to, it seemed strange that any man should persist in attributing the death of his trees to exposure to cold, when the fact was well known that in other orchards around him there had been no death the same season in any of the trees, although in point of shelter, these orchards were not, in the least, any better protected than his own. The cause of the death of the fruit trees in this case, as it is, we believe, in a large majority of similar cases, consisted in the fact that the growth of the trees had been unduly stimulated by excessive manuring, and that their constitution and fabric had thus been "tendered," made delicate and feeble, so that degrees of cold which did no harm to trees more healthy and hardy in their growth, killed outright those that had been forced into an unnaturally rapid and luxuriant development. Several observations in cases of premature death and decay in orchards around me, with close investigation as to the causes, have led me to the belief that most of such cases may be traced to the deterioration in the constitutional vigor and in the fabric of the trees produced by a too rapid and unnatural growth, which growth is itself the result of excessive manuring, and of a foolish making haste to bring the tree into bearing.

Now, the practical importance of what I have been endeavoring to present to the minds of the readers of this paper consists in the tendency of these considerations to help those concerned to discover a cause of premature decay and death in orchards, which seems but too little known or suspected as a cause. The cause being discovered, the effect may be made to cease. I would be misunderstood if it were supposed that I consider shelter or protection from cold winds of little or no value. It is of value; but of much greater value is an unforced, healthy, and hardy growth of those trees, to which we and our families are to look for many years in the future, for a steady supply of those wholesome and palatable fruits wherewith our Father in Heaven has been pleased to bless His human family, and most richly those of them who have searched to know His laws in regard to such matters, and who have conformed their practice to these heaven-imposed conditions and requirements.

It may be difficult for some to believe that the large and yearly manurings which are given to many orchards during the first four or five years of their growth, are in reality the cause of premature death and decay. I had at one time, some difficulty in believing that such forcing of the growth of young fruit trees by extra manuring, could make the wood and other portions of the trees so tender as to be unable to resist the hardships of winter winds and of summer scorching sunshine; but this difficulty at length gave way, after being shown an orchard in which about one-half of the trees had died in less than twenty years from the time of planting them, and for

which premature decay no reason could be assigned which was half as probable as that it was the result of forcing the trees by yearly and large applications of barn-yard manure. As this practice is not uncommon, especially with persons from New England and the East settling in some Western State, and naturally in haste to get their fruit from their own trees, this effort to show the evil of the practice may, if my theory is correct, be of value to not a few; and if not correct, its error will be exposed, undoubtedly, by some of your readers. MORE ANON.

For the New England Farmer.

HANDLING BEES---No. 3.

Now, Friend, if you will procure the implements needed by all apiarians, great and small, we will examine your bees on the first warm day of spring. For cutting out comb in good shape, you want a long knife, the blade 18 inches long, 1½ wide; sharp on the end and both edges, and the end square. This is to cut off the sides of the hives, and an old scythe web is the cheapest thing to make it from. Let a blacksmith flat it, and punch two holes suitable for riveting on a handle, which when on, and the blade ground sharp, will be right. Next take a bar of steel ½ inch square, and 20 inches long; have one end drawn to put a handle on, then draw on the other end a thin blade ½ inch wide, 1½ long, round point, sharp edges; then turn at right angles with the bar, and you have just the knife for cutting comb from the top of your hives, or procuring any part, and can insert it between the combs anywhere. A scraper is very handy for cleaning out under hives. Take ½ of inch wide, 20 inches long, turn a small ring on one end, flat the other into a three inch blade turned at right angles, and you have it. If you are any way timid or inexperienced you had better have India rubber gloves (which bees cannot sting through, nor will they lose their sting in these and destroy themselves) and a basket; some take wide cloth, such as bees cannot get through, yet coarse enough to be airy; a strip 9×24 inches; fasten the two ends, put in a top of cloth, leather or board, gather on a cape round the bottom, 10 or 12 inches long, to button under your coat, and you have it; or a coarse veil large enough to put over your hat and under your coat, will answer the same purpose. Basket and gloves I shall not want.

We shall find the bees, like human beings, good-natured with full "bellies," so we take along some water in a sprinkler, if you have it, sweetened sweet with good brown sugar, which is generally a sufficient treat except in midsummer, when smoke is necessary, but we will take along a smoker. Roll up some cotton cloth tight as it will burn, (a little tobacco will make a stronger smoke,) a little larger than your thumb, and catch it together with needle and thread; now a match or two, and we are ready, and will proceed to examine. Gently turn up the first hive, sprinkle a little of the sugar water, and see them sip it; give what they will take; clean off the bottom board. Now we will look among the combs, and see if there is honey to last till they can gather; they will consume more now they are stirring and breeding; (more swarms starve at this season than all other times;) and see if there are eggs so as to be sure the queen is "all right." Let us examine the nest; but see here, there are no eggs here; the queen is lost; this swarm will waste away; although there is plenty of honey, they will not "do anything" without a queen. Look at the next; here is some honey, but only a few bees, not enough to keep up the heat in the hive sufficient for breeding; here are a very few eggs. This swarm cannot flourish for want of bees; you can save them both by putting this small one with that queenless one. Now treat them a little more to the sugar water. We shall have to cut out two or three combs so as to get at them; do it carefully; save the comb to put in another hive, as it is worth $1,50 per pound to stick in to start the bees in hives or honey boxes. Take a soft brush or wing and brush the bees into the other hive, and hear them sing for joy when they have found the queen on the stand. C.

New Britain, Conn.

INQUIRIES CONCERNING FARMING.

MR. EDITOR:—Will you be kind enough to publish and answer the following questions in the March number of the *Monthly Farmer*?

1. Where can I obtain potato onions for seed, and will it pay better to raise them than the other varieties?

2. Is it best to plant onions and carrots together, or each separately?

3. Which will pay best for farmers generally, to raise garden sauce for marketing, or raise poultry? We cannot raise both together without much trouble.

4. Suppose I live three miles from market, and keep four cows; which will pay best, to sell butter at twenty cents per pound, or milk at four cents per quart?

5. Which will pay best to keep, cows or sheep?

6. Is it best to keep store hogs in a small yard, or allow them a lot to run in?

7. I have about ten barrels hen manure; how can I apply the same to my crops to the best advantage?

8. My land is smooth. What kind of harrow is best?

9. I shall be short for manure in the spring. I shall keep eight or ten cattle. Will it be best to plant an acre of fodder corn, or can I apply all my manure to field corn, &c., to better advantage?

Wakefield, R. I., 1861. JOHN DIMON.

REMARKS.—The above was not received in season for the March number of the *Farmer*. In order to get the Monthly off to subscribers promptly, we are obliged to have it printed, folded and stitched, ready for mailing, ten days previous to the month for which it is designed.

1. *Potato Onions* may usually be found at the seed stores. We have no positive knowledge as to the comparative profit.

2. *Onions and Carrots* are not usually planted together by those who raise large quantities of both. We have never seen them in alternate rows among the onion growers in Essex county.

3. *Poultry and Garden Sauce* do not harmonize very well, until they are cooked and laid upon

the table. If you are near a good market, where you can reach it once or twice each day with early vegetables, there would be more profit in raising vegetables than poultry.

4. Sell the milk at *four* cents a quart. As an average, it will require, at *least*, six quarts of milk for a pound of butter, (and probably more,) which, at four cents, would be twenty-four cents. If it should require eight quarts, you would get thirty-two cents—twelve cents more than you would get for the butter; but if you made butter you would have the skim and butter-milk, so that the difference, (saying nothing of the labor required to make the butter,) would not be material.

5. *Cows or Sheep.* We cannot tell. It depends upon circumstances. What your farm is, where you are located, how much skill you possess, &c.

6. If you keep hogs to labor for you, as you do a hired man, and wish them to root up a lot, or overhaul manure, then you must arrange them accordingly; but if you keep them, as we do, to eat largely with a good appetite and grow fast, you will have them in a place where they can go to the ground, or to a dry, warm bed, at their pleasure. You can then dress them at about twelve months old weighing between four and five hundred pounds, and at a cost of five or six cents per pound. It is a common practice for pigs to run on the manure heaps—we doubt whether any special advantage is derived from it. We should prefer to have it left as thrown down. Horse manure heats, and must be scattered occasionally; but if muck or loam were mingled with it, fermentation would, in a great measure, be prevented. The advantage of having the pigs in the manure cellar is, that it affords them shelter and warmth, and saves the expense of a regular piggery. When our hogs eat and sleep well, and work but little, we find the most profit in them. A good farm hand, by devoting one hour in a week to the manure heap, will do more good than a pig will by rooting over or trampling it down. When a pig roots, he expends the milk and meal you have fed to him, in that labor, instead of laying on flesh and fat with it. If the swine are kept by themselves, however, they should be well supplied with all proper materials for making manure.

7. *Hen Manure* is good guano. Mix it thoroughly with old muck, sand or loam, until no lumps remain, ten or twelve parts of loam to one of the hen droppings. Apply a handful to the hill for corn, or use it in drills about the garden. Few fertilizers are equal to it.

8. Do not know what harrow is best. Have not used them all. Holbrook's hinge harrow is an excellent one; so is Bucklin's, especially where the furrows are very tough.

9. You cannot raise *fodder corn* profitably by subtracting the manure for it from your corn field. If you must have the fodder, plant a less breadth in corn, and manure it well as far as you go.

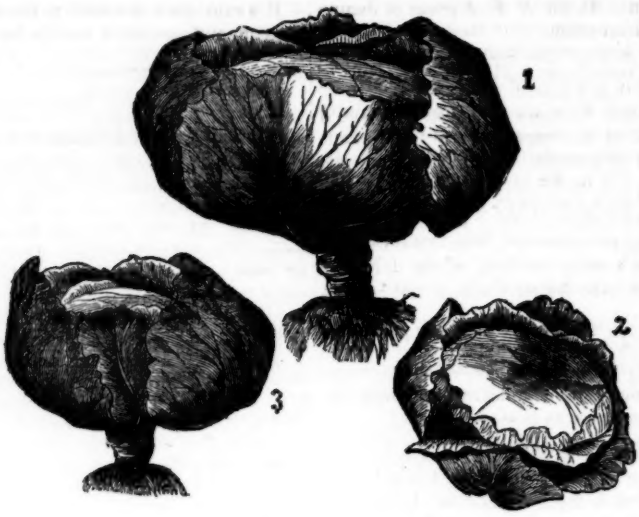
For the New England Farmer.

HOBART & SPAULDING'S HARROW.

It is now conceded by all good cultivators that the thorough harrowing and pulverization of the soil is as necessary to ensure extra crops as good plowing. Having more than twenty-five acres of ground to seed with grain and grass in the spring of 1860, some of it being very tough and full of meadow grass roots, and being satisfied that the straight tooth would not pulverize the soil and mix the manure with it, I purchased one of the Pepperell Harrows. It has answered the purpose completely. I first tried it on a swamp which had been planted with potatoes, then grass, and graveled in '59 with one large ox load to the rod, and then the effect was to intermix mud, manure and gravel, and reduce the land to an even surface as no other harrow would have done. I then used it on a low piece of springy ground, where the soil was about ten inches deep, and plowed the November before. This land was underdrained and reclaimed some twenty years before, but meadow and hassock grass had worked out the better kinds, and reduced the crops to less than fifteen hundred pounds to the acre, and by running this harrow both ways, it was made as fine as an old field. The crop of oats was abundant, nearly paying all the labor, with a fine prospect for grass the present season. I also tried it when wood had been recently cut, and although many small stones and some large ones were in the way, still the work was so much better done than with any other harrow, that I recommend its use even then. I have no hesitation in saying that it clogs less and does the work better on hard land than any other harrow in use.

Concord, March 11, 1861. E. WOOD, JR.

FINDING FAULT WITH YOUR CHILDREN.—It is at times necessary to censure and punish; but very much more may be done by encouraging children when they do well. Be, therefore, more careful to express your approbation of good conduct than your disapprobation of bad. Nothing can more discourage a child than a spirit of incessant fault-finding on the part of its parent; and hardly anything can exert a more injurious influence upon the disposition both of the parent and child. There are two great motives influencing human actions—hope and fear. Both of these are at times necessary. But who would not prefer to have her child influenced to good conduct by a desire of pleasing, rather than by the fear of offending? If a mother never expresses her gratification when her children do well, and is always censuring them when she sees anything amiss, they are discouraged and unhappy; their dispositions become hardened and soured by this ceaseless fretting; and, at last, finding that, whether they do well or ill, they are equally found fault with, they relinquish all efforts to please, and become heedless of reproach.



THE MARBLEHEAD DRUMHEAD CABBAGE.

Above we give cuts of three new cabbages. We have not cultivated them, but are justified in showing them to the world, and in giving the propagator's account of them, by the high praise bestowed upon them by some of the best market men in Boston.

"A variety of cabbage that has triumphed over all other varieties, and established itself as a standard in the markets of Boston and vicinity, well deserves a history. These three engravings represent the three standard varieties of the Marblehead Drumhead Cabbage, when they have completed their growth. No. 1 representing the "Marblehead Mammoth Drumhead;" No. 2 the original "Mason," and No. 3 the "Stone-Mason."

History.—In the year 1838, Mr. John Mason, formerly of Marblehead, Mass., received a package of cabbage seed from John M. Ives, Esq., of Salem, Mass., which that gentleman received, for trial, from a firm of market gardeners in London. The seed were planted, and produced many varieties of cabbage, among which were two or three heads whose strongly marked characteristics so recommended them, that they were carefully set aside for seed purposes. These two or three cabbages were *the originals of the* MASON *Cabbage*, though I doubt not that its great reliability for heading has been increased by great care through a series of years in growing seed from the centre shoot only.

Stone Mason.—The farmers of Marblehead, having succeeded so well with the "Mason," sought to obtain a cabbage that should have all the excellent characteristics of the original Mason, with an increase of size. By care in selecting seed for a series of years, the Stone-Mason was produced, tne prefix, "Stone," being given in honor of Mr. John Stone, Jr., through whose intelligent cultivation the result was obtained.

Marblehead Mammoth Drumhead.—While endeavoring to increase the size of the "Mason," some of our enterprising farmers resolved to continue enlarging it to the utmost limit possible for a high culture under a New England climate. The final result was the Marblehead Mammoth Drumhead, without doubt the largest cabbage in the world.

Direction and Hints for Cultivation.—Plant, if possible, on new land, and three or four years should intervene between crops on same location. Manure liberally, particularly for the Mammoth, about two-thirds broadcast and one-third in the hill. A compost of night-soil, muck and barn-manure, thoroughly mixed, is excellent. Too highly concentrated manure applied directly to the hill tends to produce stump-foot; for this reason avoid hog manure, though stable manure on which hogs have run is excellent. A mixture of ashes and guano is excellent for the hills. Plant the seed in the hill in which the cabbage is to grow. As soon as the plant is up, scatter plaster, or lime well air-slaked, to keep off black fly. Hoe three times. When the fourth leaf is developed, thin to two plants to hill; when about three inches high, to one in hill, leaving occasionally two, to fill future blanks. If, after heavy rains, heads when small show symptoms of cracking, start the roots slightly, and they will soon re-root and grow to double size. Plant Mason 2×2½ in row; Stone-Mason 3×2½ or 3; Mammoth 4×4. For winter use, plant Mason, in latitude of Massachusetts, from the 12th to 20th of June; Stone-Mason, from 7th to 12th of June."

For the New England Farmer.

12 ROWED AND 8 ROWED CORN.

MR. EDITOR:—In the *N. E. Farmer* of January 19th, I find an article by "Massapoag" giving the results of some experiments, from which he infers that 12 rowed corn will yield 30 bushels to the acre more than 8 rowed.

If I understand his figures, his estimate would make the yield of the larger variety 175 bushels to the acre, at 50 pounds to the bushel, as he estimates it, or 146 at 60 pounds to the bushel, (the weight of such corn as we grow here,) a crop which I should rather see than hear of. Again, he allows no more room for a large 12 rowed variety, than for a small 8 rowed, when, in fact, it requires wider planting nearly in proportion to its size.

The proper method of comparing the two, would be by shelling a bushel of ears of each kind and weighing the product, or if they were grown separately, by measuring and weighing the product of an equal area of each.

So far as my experience goes, the 12 rowed varieties will not, here in Massachusetts, mature as many bushels of ears as some of the 8 rowed, and I have never found them to yield any larger proportion of shelled corn than some of the latter, the King Philip, for instance, while the larger cobs, which they almost always have, require considerably longer time to dry, and of course, there is more danger from early frosts before harvesting, and warm damp weather after it is got into the crib, and this I think without any compensating advantage, unless it be that the 12 rowed is worse to shell.

There is one point, however, on which I am ready to agree with "Massapoag," that the largest variety of corn that will mature fully, is the most profitable to raise, not only because I think it will give a better yield, (a point, however, which some of our farmers do not admit,) but also from the smaller amount of labor required in its cultivation. What variety to plant must depend upon the location, nature of the soil, and the amount and quality of the manure.

The King Philip is as late a variety as I can safely plant on my best corn land, while a neighbor succeeds equally well with a variety two weeks later, because his land has a warm southern exposure, while mine slopes a little in the opposite direction, and lies a little lower, thereby being a little more exposed to frost; again, in other parts of this town it is necessary to plant a variety two weeks earlier than the King Philip, a difference which is mostly due to the cold nature of the soil.

Ashfield, Feb., 1861. WM. F. BASSETT.

THE force with which a solid body, falling upon a solid surface, will strike, is equal to the weight of the body multiplied by the square root of sixty-four and one-third times the hight in feet of the fall. A body falling through one foot, strikes with eight times its own weight.

For the New England Farmer.

TABLE OF COMPARATIVE BULK.

It would often be useful to the person who applies manure or other top-dressing to land, to know the comparative bulk of what he applies, to the soil on which he puts it.

If one foot in depth of soil on one acre of land, should be measured in a bushel measure, we should find thirty-five thousand and three bushels. If weighed, we should find twenty-seven hundred and fifty-seven tons. If dried in an oven, to expel all the moisture, it would then weigh two thousand and sixty tons. If taken off in an ox cart, it would be all carried away in one thousand and twenty-one loads. If measured in cords, there would be three hundred and forty.

These numbers are set down in the first line of the table under the appropriate words.

To ascertain the average weight of soil, I examined the weights of different kinds of soil as given by Weisbach, Mosely, Law, Hitchcock and Dana, and adopted the weights given by Dana as the most accurate average for our ordinary farm soils. He gives the weight of a cubic foot, thoroughly dried, as 94.58 pounds, which, in its ordinary wet state would weigh 126.6 pounds which shows that soil will absorb and retain more than half its bulk of water. This agrees very nearly with my own experiments. About one-fourth of the bulk still remains unfilled with soil or water, and is occupied by air.

The "load" as commonly spoken of by farmers, contains one-third of a cord, being 42⅔ cubic feet, or about 34¼ bushels. The horse cart employed in road building, contains about 18 cubic feet, or less than half of what is known among farmers as a "load."

TABLE.

	Bushels.	Tons in Ordinary State.	Tons in Dry State.	Loads.	Cords.	
In 1 acre 1 foot deep,	35003.	2757	2060	1021	340	
1 Bushel, Ton, Load, or Cord,	= $\frac{1}{35003}$	$\frac{1}{2757}$	$\frac{1}{2060}$	$\frac{1}{1021}$	$\frac{1}{340}$	of the bulk in one acre.
2 "	= $\frac{1}{17502}$	$\frac{1}{1379}$	$\frac{1}{1030}$	$\frac{1}{510}$	$\frac{1}{170}$	"
3 "	= $\frac{1}{11668}$	$\frac{1}{919}$	$\frac{1}{687}$	$\frac{1}{340}$	$\frac{1}{113}$	"
4 "	= $\frac{1}{8751}$	$\frac{1}{689}$	$\frac{1}{515}$	$\frac{1}{255}$	$\frac{1}{85}$	"
5 "	= $\frac{1}{7001}$	$\frac{1}{551}$	$\frac{1}{412}$	$\frac{1}{204}$	$\frac{1}{68}$	"
6 "	= $\frac{1}{5834}$	$\frac{1}{460}$	$\frac{1}{343}$	$\frac{1}{170}$	$\frac{1}{57}$	"
7 "	= $\frac{1}{5000}$	$\frac{1}{394}$	$\frac{1}{294}$	$\frac{1}{146}$	$\frac{1}{49}$	"
8 "	= $\frac{1}{4375}$	$\frac{1}{345}$	$\frac{1}{257}$	$\frac{1}{128}$	$\frac{1}{43}$	"
9 "	= $\frac{1}{3889}$	$\frac{1}{306}$	$\frac{1}{229}$	$\frac{1}{113}$	$\frac{1}{38}$	"

Suppose you have a piece of meadow land, measuring for instance, five acres, and wish to know how many loads of sand will be required to cover the entire surface two inches thick. As one acre 12 inches deep contains 1021 loads, 5 acres will contain 5 times as much, or 1021 × 5 = 5105 loads, and as 12 inches is 6 times as much as 2 inches, divide by 6, 5105 ÷ 6 = 851 loads, and we have 851 loads, as the quantity required.

Suppose you apply 72 bushels of ashes to an acre, how does it compare in bulk to the soil? 1 bushel equals $\frac{1}{35003}$, then 72 bushels will equal $\frac{72}{35003}$, which can be reduced to a smaller fraction of nearly the same value by dividing the numer

ator and denominator by 72, the result is about $\frac{1}{4\,8\,6}$. Or, again, as 72 is 12 times 6, the fraction opposite 6 should be multiplied by 12; we shall then see that 72 bushels will equal $\frac{12}{5\,8\,3\,2}$, or about $\frac{1}{4\,8\,6}$ of the bulk of the soil.

If you apply 30 loads of manure, the bulk will be 10 times as much as for 3 loads, and will be represented by $\frac{10}{3\,4\,6} = \frac{1}{34}$.

If you apply 20 cords of manure, the bulk will equal the fraction opposite 2, multiplied by 10, or $\frac{10}{170} = \frac{1}{17}$, or the fraction opposite 4, multiplied by 5, or $\frac{5}{85} = \frac{1}{17}$, or the fraction opposite 5, multiplied by 4, or $\frac{4}{68} = \frac{1}{17}$, &c.

A similar table is given below, in which the quantities are represented by decimal, instead of vulgar fractions, by which those accustomed to the use of decimals can make up readily and accurately, the comparative bulk of any number of bushels, tons, loads or cords.

DECIMAL TABLE.

	Bushels.	Tons in the Ord'y State.	Tons in the Dry State.	Loads.	Cords.
Acre. =	35003	2757	2060	1021	340
1. =	.0000286	.0003627	.0004854	.0009794	.0029383
2. =	.0000571	.0007253	.0009709	.0019589	.0058766
3. =	.0000857	.0010880	.0014563	.0029383	.0088146
4. =	.0001143	.0014507	.0019418	.0039177	.0117531
5. =	.0001428	.0018133	.0024272	.0048972	.0146914
6. =	.0001714	.0021760	.0029127	.0058766	.0176298
7. =	.0002000	.0025387	.0033981	.0068563	.0205672
8. =	.0002286	.0029013	.0038835	.0078355	.0235062
9. =	.0002571	.0032640	.0043690	.0088144	.0264445

The weight of an acre of soil one foot deep, in its ordinary state, is 5,514,696 pounds; in a thoroughly dried state, 4,119,905 pounds.

J. HERBERT SHEDD,
AGRICULTURAL ENGINEER.

Boston, Feb. 12, 1861.

AGRICULTURAL SURVEY OF SOMERSET COUNTY, MAINE.

Although the "Massachusetts Society for the Promotion of Agriculture" is less *demonstrative* than some younger institutions, yet its record shows that it has initiated some of the most important agricultural movements which have been made in New England within the last half century, and that its influence is still felt for good. The "*Agricultural Survey of Middlesex County*," by Dr. JOSEPH REYNOLDS, of Concord, published in the Transactions of the Society last year, is destined to prove like good seed on good ground, and bear an abundant crop of information respecting the agricultural condition and capacities of other sections of our own State, and of other States, especially in New England. We are waiting with interest to see the forthcoming number of the Transactions of the Society, as we anticipate something further in the same direction.

We have before us "An Agricultural Survey of Somerset County, Maine," by SAMUEL L. BOARDMAN, of South Norridgewock. Mr. Boardman seems to have followed somewhat the plan of the Middlesex Survey, and has quoted quite freely from that able paper, as well as from Dr. Jackson's Geological Reports on Maine. The Survey is well written, and contains many suggestions that cannot fail to be useful to the farmers of Somerset, as well as to farmers similarly situated in other parts of Maine. We are especially gratified with the judicious remarks upon *Sheep Culture*, and trust they will be heeded.

Somerset county is nearly one-third as large as the State of Massachusetts. It lies on the Kennebec, and its affluents, Moose and Dead rivers. Moosehead Lake divides it from Piscataquis county. The northern part of the county is mostly unsettled, and is the centre of the lumbering operations on the Kennebec. The southern part is well settled, and we hope this timely paper of Mr. Boardman, will awaken the farmers to a more careful attention to the condition of the soil and the demands of progressive agriculture, and that some equally competent man in each county will imitate his example, and thus give us an agricultural picture of the whole State.

For the New England Farmer.

HAY AND POTATOES---A ONE-HORSE POWER.

MR. EDITOR:—A number of years ago I read in the *N. E. Farmer* that in good hay, 1000 parts, there are from 90 to 100 parts nutriment, and in 1000 parts potatoes, from 200 to 260 parts nutriment. About two years since I read in the same paper that it requires 201 pounds of potatoes to be equal to 100 pounds of good hay. I also read in the *Farmer* that it was stated at an agricultural meeting in the State House in Boston, in January last, that three pounds of potatoes are equal to one of hay. Now these statements differ very much, and which of them shall we believe? It will not do to dispute chemistry, if experience proves to the contrary. I am inclined to think the first statement nearest right. Three years ago last August I had a mare that had done all the light work on the farm and brought up a colt, and at that time was quite thin in flesh, as she had lived on grass alone. I took the colt from her some time the last of August, and from that time until the last of winter she worked almost every day. She was fed with one peck of boiled potatoes mixed with a little cut hay per day, and came out fat. After a few days she ate but little hay. I concluded, then, that I should experiment a little with boiled potatoes, if I had a chance. Since then I have worked this mare on hay alone, and on weighing it, find that she consumes 25 pounds of hay per day and she loses flesh at that. Last August I commenced feeding her on hay and one peck of boiled potatoes per day, and worked her almost every day until winter. I found on weighing the hay, that she ate 10 pounds per day, or a fraction less. At that time she was in much better flesh than in August, and since then she has had only six quarts of potatoes per day, and she is round enough to ride on the back a short distance without a saddle, with pleasure. Now, if there is not more nutriment in a pound of hay than in a pound of potatoes, why

does my mare gain on 10 pounds of good hay and 15 pounds of potatoes, and lose on 25 pounds of hay per day, performing the same labor? These are facts.

I see an inquiry in the *N. E. Farmer* in regard to a one-horse power. About seven years ago I bought a one-horse thrashing machine, and I find that it is a good deal cheaper than a two-horse power, for thrashing. I place the machine in the centre of the barn, before I get in any grain, then I can drive a load at each end of the barn, at night, for instance, and the next morning if it rains I put the horse into the machine, and thrash it off the cart, and thus save the labor of pitching off and on the scaffold once. Perhaps by noon it is fair again, our two loads are thrashed when we could attend to it as well as not, and we are ready to go to the field again. We are not under the necessity of leaving other work to attend to thrashers whenever they happen to come along. My horse does not weigh over nine hundred, and she will thrash 20 bushels of oats in an hour, and other grain in proportion. This machine, with a pair of good horses, one working at a time, has thrashed in my barn 536 bushels of oats in a day and a half.

We use the horse power to saw our fire-wood, and save a great deal of hard work. We manage in this way: We find it very hard to split tough logs that are cut four feet long; we cut it about ten feet long—what we call sled length—and draw it to the house in that condition, and saw the logs before they are split. Perhaps some one may wish to know how I attached the saw to the horse power. Well, I bolted on a piece of plank across two of the arms of the drive wheel, just as far from the centre of the wheel as I wanted the crank in length; then I put a pin through the end of the sweep and the centre of the plank. This constituted a crank. This sweep moves back nearly to the hind end of the horse power, and here we must have a joint in the sweep in order to run the saw and not rock it up and down. The other half of the sweep is attached to the first by bolting on a short piece of board on each side of one of these half sweeps, and the other half sweep slid in between these two boards, with a pin through in order to make a joint. This joint is supported by a stud with a pin through the lower end and in the sill of the horse power, and the upper end comes up between the strips of board with a pin through that, the ends of the sweeps being far enough apart to admit it and have it play back and forth. The saw is called a cutting off saw, such as is used in shingle mills for cutting off logs. It cost four dollars, and I put it in a frame, just like a hand wood-saw. One end of this frame is attached to the end of the sweep by bolting on two short pieces of board one foot wide. Now there wants two little studs set up, one each side of the sweep near the saw, the cheapest way you can, in order to guide the sweep, about three of these, and the sweep should be about eight inches wide. Now fix the cheapest way you can to hold the log, and your saw is all right. A man that can handle tools will make the necessary fixings in three days, and the whole apparatus costs about seven dollars—much less than a circular saw. We set the horse power in the wood-house, and let the end of the sweep run just out of the door if we choose, so that the horse is under cover and the saw out, then draw the logs up to the saw as they are wanted, saw them short enough for the stove, and the work of splitting is a mere nothing compared to splitting four foot wood.

We finished sawing our next year's stock of 15 cords in January, when the wood was frozen as hard as could be, and we averaged a cord of these hard wood logs sawed from fourteen to sixteen inches long, in less than three hours and a half. We saw a hard wood log one foot through in a minute, and the horse does not draw a single pound. This machine has more than paid for itself already, and it is nearly as good as when first bought. I think it one of the best investments I ever made, and that any good farmer, after he has used one a year, would not think he could be without it.

Will it injure manure to get so hot that the inside of the heap will become mouldy, and if so, what is to be done with it, now the snow is so deep I cannot get it out? B. W. Gay.

New London, N. H., Feb., 1861.

Remarks.—Manure is greatly injured by becoming as hot as you state. Throw it over at once, and mingle with it meadow hay or straw cut fine, good muck, loam, plaster, charcoal dust, or, if you cannot get these, sprinkle it well with copperas water, of any strength you please.

OUR NEW CATTLE MARKET REPORT.

The reader who is at all interested in stock, cannot have failed to notice the report we have now given for several successive weeks in relation to the *Cattle Market at Cambridge and Brighton.* It has been published long enough to command the attention of producers and stock-dealers, and to bring to us from them the warmest commendations of our plan. We have been seeking to gain this point for several years, but until recently have been unable to find the person having the proper practical knowledge required to make a truthful, and at the same time, a clear report. The ability to do this requires both a particular taste or genius for the work, coupled with an intimate acquaintance with the business in all its departments. Several persons have, at different times, engaged in this matter for us, but have failed to produce such reports as would commend themselves to those immediately engaged in rearing stock, or in purchasing and preparing it for the market.

These persons now see, and state to us, that a head is engaged in it which comprehends this important industrial interest in all its particulars, and that nothing short of an intimate kn wledge of its details could give him the power of presenting a report which so admirably meets the wants of all parties.

The report will be continued, and its value enhanced by such additions or improvements as

may be suggested by longer experience, or by the kindness of any of our readers who desire it made as perfect as possible.

In presenting it, the publishers incur a new and considerable expense, but the prosperity of the paper fully justifies them in this, or any other reasonable cost, if in so doing a majority of its readers will be benefited. The work is a mutual one. We certainly cannot long find a demand for the *Farmer*, unless the wants of the reader are generally met. Let us, therefore, sustain a mutual confidence, by suggesting to each other what may seem to us to promote the interests and best meet the wants of all.

LEGISLATIVE AGRICULTURAL SOCIETY.

[REPORTED FOR THE N. E. FARMER, BY THOMAS BRADLEY.]

There was a very good attendance at the ninth meeting of the Legislative Agricultural Society, held in the Representatives' Hall on Monday evening. The meeting was called to order by Col. Stone, who introduced Judge FRENCH, of Cambridge, as the Chairman of the evening.

On taking the chair, Judge French announced as the subject for discussion, "*Under-Draining.*" He said he had not proposed to deliver a lecture on the subject, but to make a few introductory general remarks. It was not the object of the meeting to go into a systematic discussion of the question of draining, as he understood, as this would occupy not only days but weeks, as the best tools, the nature of the land, and other important matters contingent on a thorough understanding of the subject, would necessarily have to be each and all considered.

He would speak of draining wet lands, which embraced a great proportion of our uplands, as well as lowlands. He said he was not one who believed that all lands would be improved by draining, but he thought that none would be injured, and the question to be considered by every farmer, in the first place, was, Will it pay? and is it a better investment than others I can make? In four feet of soil, the speaker said, was retained two feet of water, and anything more than this would have to be carried off by drainage.

The speaker then alluded to the swamps and meadows in Massachusetts, and took occasion to say that he believed the Yankee meaning of the word meadow was correct, and that the English meaning of mowing lands was incorrect. He did not know the quantity we had here, as he had never seen it stated, but in Indiana, he learned from Gov. Wright, there were 3,000,000 acres, and in the United States, prior to 1857, 60,000,000 had been taken by the several States under the law of Congress. He had seen in a Massachusetts Legislative document of 1860 that there were 156,000 or more acres of meadow land, and 40,000 acres of salt marsh, on all of which the average crop was not more than three-fourths of a ton to the acre, and in this of course were not included the swamps covered with wood, which would be reckoned as woodland, nor those covered with water. All reports, said he, agree in stating that these lands, when properly treated, are the best and most productive in the State, as the collecting of leaves on them, the washings from the higher lands, and other causes, make them particularly fertile.

He had supposed that every one knew the value of such lands as these, until that day he had heard a man question the utility of being at any expense to reclaim them, but he now thought the man was ignorant, and he wanted what a great many of our farmers lacked—knowledge. The only question, said Mr. French, is whether it will pay to reclaim the land, and in by far the greater portion of lands he felt sure it would.

We want, said the speaker, to employ more capital and more knowledge, and the nations which excel us in agriculture do this, and it is the secret of their success. He spoke to farmers without flattering them, and he thought it was due to every man to speak in this way. It is not true, said he, that the farmers of our country have no capital to invest,—the banks, railroad and other corporations show that they have; but as soon as a farmer gets a little money, he is too much in the habit of going to invest it in this manner, than to put it on his farm, where he would always have it.

Judge French said that he learned from a report of Mr. Goodale, Secretary to the Maine Board of Agriculture, (and this he instanced to show that there the farmers are not poor,) that the fences in Maine have cost the farmers $25,000,000, while the fences to the highways alone have cost the State $3,000,000.

There is not knowledge enough in Massachusetts, said he, to make farming profitable, but by this he did not wish it to be understood that we had not an excellent school system and means of acquiring learning, but that our farmers were lacking in the practical knowledge of their business, so as to enable them to make the most from their lands. Twenty-eight and a half bushels of wheat is the average product in England, while here the highest average of any State, except California, is only 16, and that in Massachusetts The reason of this is that England has more capital and more labor, and knows how to use it. He spoke of the system of farming in England, saying that the farmer there directed only, and was thoroughly acquainted with his business, while here the farmer furnished head and hands both. He supposed the Southern planters did their

work better than we do, as it was done on the English plan.

We have capital enough, said the speaker, but the great object was to show that it can be made to pay to invest it in agriculture, and to show how this is done in Europe, he spoke of the pumping out of Haarlem lake in 1852, and in 1855 there were families living on the bottom of the lake, by which 40,000 acres of land, worth more than double the land around it, and capable of supporting 70,000 people, was obtained at a cost of only $80 per acre. He also gave a very interesting account of the draining of the Lincolnshire fens in England, and closed by inviting the members to take part in the discussion.

Dr. GEO. B. LORING, of Salem, being called on, said that the question of drainage was not generally understood by the farmers of this country. Two or three weeks ago he had been invited to address the Milford Farmers' Club, and had taken for his subject "How to manage a Farm." He there told them that no farmer should undertake to cultivate a piece of land without first getting the water out of it. In swamp lands where rivers flowed near them, and in bogs and lands where there were large springs, he advised them to use tile drains, as they were better than stone.—After the address, he was told that another member of the Board of Agriculture had been there a short time before, and he had told them that if they wanted to ruin their land, and themselves with it, they would use tiles in their soil. Thus, said the speaker, we must now consider which is the most economical method of draining our land. He said that, 30 or 40 years ago, a man in his section, who had all the advantages that a knowledge of the English and Scotch system then gave him, drained 20 or 30 acres of wet meadow with stone drain, and he also had the advantage of surface drainage besides, yet with all this, after he had drained the land awhile, the drain choked up, and water grass covered every foot of the land. I advised him, said Dr. Loring, to take up the stone drain and put in tiles, because I knew these would never be liable to choke up, and the result is, the land is now in fine order. Peat bog, said he, must of course be drained by open drains, but moist, clayey land will only do with tile drain. If it is drained by stone drain, the soil and clay will work through, and finally, without there is a great fall, the drain will fill up. Tiles, said the speaker, are in the end the cheapest. He advised every farmer to commence with stone draining if he could not afford tiles, and when he got a return for his crops, to invest it in tiles instead of stocks. It was impossible, he said, to fill up a tile drain, as the hydraulic pressure would draw the water through the pores of the tile, and thus no sand or clay could get inside the pipe.

Judge FRENCH said that the English Parliament had loaned $40,000,000 to land drainage companies, and Mr. Denton, an eminent agricultural engineer in England, said that, in 1855, 1,250,000 acres had been drained. There is no such thing as stone drains there, all being done with tiles. The land, said the speaker, is owned by the members of Parliament, and they consider this the best investment they can make.

Mr. NOURSE, of Orrington, Maine, was next called up. He said there was no question to any one who had had experience of the advantage of tile drains. He had two miles of stone drain, and five of tile, and when tiles can be had for $15 per 1000, he said he would rather have them than the stone if it was given to him. It is safe, said he, with a very great fall, to use stone drains, as then there is no fear of their filling up, but tiles were good anywhere. He said some farmers stated that they could not afford to get tiles, but his experience told him that they could not afford to do without them. If a man had a piece of land that would be fertile if drained, and said he could not afford to drain it, he would advise him immediately to sell half of it, and drain the other half with the proceeds. In the matter of manure, the speaker said that if land on which it was put was properly drained, all the rains that fell would carry the manure into the ground, while if the land was not drained, it would be washed off, and the land would lose more than half the good of it.

Mr. FISK, of Shelburne, said that his experience was altogether in favor of stone draining, and he thought that in the consideration of this subject, the lay of the land was of the utmost importance. He should rather refuse tiles if offered him than stone for drains. In the western part of the State there were lands that were hilly, and they had come to the conclusion that water would run down hill, and so were in favor of stone drains, from the fact that they had the stone on their lands, and did not know what to do with them. England, said he, has no stone to speak of, and thus they use tiles which are cheaper, while we use stones to get them out of the way. Thirty years ago he stated that he laid a stone drain, and to-day it works to perfection, and even better than tile drains belonging to his neighbors near it. In his part of the State it was the practice to use pebbles for their drains. They were under the necessity of draining more every year, and he was confident it would pay well, and the lands improved thereby were the best we have in the State.

The Chairman said his preference for tiles was because of the little trouble necessary to excavate to lay them, but if they could not be got he recommended the use of other materials which were most eligible. He spoke of the trouble from

mice and moles to stone drains. He said he would not drain a piece of land not having more than 3 inches fall in 100 feet with stone, unless he had the dimension stone, and laid it at least 4 feet deep; but he would rather pay $12 to $14 per 1000 for tiles, and he could show by figures, that excavating for stone draining would cost as much as $10 per 1000 for tiles. He spoke of Mr. Wm. Connors, of Exeter, as being the first to drain with tiles in New Hampshire, the first tiles costing him $25 per 1000, on his farm. He uses them now, and considers even his pasture land pays for draining; indeed so general had the use of tiles become in that section, that a manufactory had been established in Exeter. The speaker said he had a piece of land that he drained with tile, and although he land was worthless before, from wet springs, he now raised the largest crops he had ever seen from it, and these were six weeks earlier than on undrained land. He had found that on thorough drained land, after the frost is out of the ground, you can always go to work and plow.

RICHARD S. FAY, of Lynn, said he thought that even the system of drainage in Europe was in danger of being carried too far, and that parties were losing money by draining lands which never needed it, as it had become to be thought a panacea for everything. One-half of his farm was so dry he could not get water enough on it, and the other half was so wet he could not get the water off of it. He spoke of the advantage of air in the ground for the growth of plants and herbs, saying that too much moisture tended to check the growth and destroy vegetation.

Mr. HALL, of Medford, had always been a farmer, and thought under-draining was at the bottom of all good farming. He had drained twenty acres of low, wet clay land within six or seven years, he finding the tiles and his tenant putting them in, and the effect on two and a half acres of this was that he considered it paid the expense the first year. He had taken up stone drains on land where a canoe would float, and put in tile drain, and now he had a very good growth of dwarf pears on the land, while the water he got from the land he pumped up by a hydraulic ram for use in his house, barn and out-buildings, and this, he thought, amply compensated for the cost of draining.

The Chairman explained the difficulty the people of Massachusetts and New Hampshire labored under, in comparison with England, in the laws relating to flowage.

Mr. SHEDD, of Boston, being called on, said that as an agricultural engineer he had drained a lot of land in Milton where there were only two inches of fall to the quarter mile and the drain worked well. If there is a fall of three inches to the hundred feet in land, a tile drain of two inches, with drains forty feet apart, four feet deep, would take off all the water, and he would guarantee it would work satisfactorily. All soils resting on a tenacious subsoil could be advantageously drained. He spoke of several instances of draining which had been particularly successful, and said that one great advantage of draining was the forwarding of the ground for agricultural purposes.

The subject for discussion at the next meeting having been announced as "*Fruit and Fruit Culture*," when Hon. MARSHALL P. WILDER is expected to preside, the meeting adjourned.

EXTRACTS AND REPLIES.

A MOWING MACHINE.

I think of purchasing a mowing machine, and if it be not in violation of your rules, please give me a word of advice as to the kind What do you think of Ketchum's improved, made at Middletown, Ct., and also of Wood's? My meadows are not perfectly smooth.

Which is the best for all kinds of meadow—the wheel or the hand horse-rakes?

Winchester Centre, 1861. H. FORD.

REMARKS.—When mowing time comes, go where mowing machines, of various kinds, are at work and see and test them for yourself. Ten dollars expended in this way will be an economical outlay.

If your lands are quite rough, a hand horse-rake will last longest on them, but it will *kill you* a great deal sooner, than a wheel horse rake will. So, as you value your own comfort and longevity, choose between them!

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A NEW SEEDLING APPLE.

I herewith enclose a sample of apples raised by myself the past season, which, being seedlings, I thought I would send a few to you, and would like your opinion of them. I planted the seed in 1850, on light gravelly soil; one tree, looking very thrifty and growing faster than the rest, I thought I would not graft it, but let it grow and bear naturally; it continued to grow very thrifty, without any extra manuring, and bore two apples in 1858. In 1859 it bore about a peck, and the past season one and a half bushels; the tree now stands over fifteen feet high and has gone far ahead of all my others on the same soil. The apples keep pretty well till February. One advantage in them is being a great bearer and of good size, the sample I send you being an average size. I think by cultivation they would be worthy of notice. SEEDLING.

Bradford, N. H., 1861.

REMARKS.—Our opinion with regard to fruit must be well known to our old readers. We are decidedly of the opinion that none *but the best fruits* should be cultivated. It costs no more to raise and continue a good tree than to sustain a

poor one. If, on account of climate, or for any good reason, the Baldwin and other fine fruits will not flourish in a particular locality, then introduce something else. In the region of Boston, the fruit sent by our correspondent is not equal, in appearance or flavor, to many varieties that are quite common in the eastern part of Massachusetts; so that, if these fruits will flourish in the section from whence our correspondent writes, we think he had better use them than his seedling. He may succeed, by-and-bye, in getting something preferable to any apple now known to us. The finest apple we have, among forty varieties, is a New Hampshire seedling.

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HORSE WITH A BROKEN LEG.

Having been a constant reader of your valuable paper for a number of years, and observing many things relative to sick horses and cattle, I wish to say a few words through the *Farmer* about broken-legged horses, which I had generally supposed were worth as much as one with a broken neck and no more; but personal experience has shown the reverse, viz:

In August, 1857, as my neighbor, H. Burton, was training a young horse of three or four years, he threw himself, and the second time he got up it was with one hind leg broken about two inches above the ankle. Mr. B. came over to my house and wished me to go and see it. I did so, and on examination I found it so badly broken, that when we moved the foot the bones would rattle like a parcel of broken crockery. Mr. B. bound it up rather ordinarily, turned him into the meadow and there let him run without bathing it at all. It swelled, corrupted and discharged, and pieces of bone came out from time to time, and in about one year he became able to work. The past winter he has been able to go into the woods harnessed with another to the short sled, and draw the biggest logs without fear or favor.

JOHN PETTENGILL.

Andover, March 2, 1861.

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REMEDY FOR SCRATCHES — TRANSPLANTING A GRAPE VINE.

I see in your paper the statement that a beech tree is a non-conductor, but I can show you a beech that was struck by lightning and stove into a thousand pieces, as the saying is. The tree was about eighteen inches through the butt.

I also read an article on "Scratches, and their cure." My method of curing them is to rub on West India molasses a few times, and I have never known it to fail. It is a cheap, simple remedy, and that is what we want.

Will it do to take a grape vine out of a brook and set it in ground that is not half so wet? If so, when will be the time to do it?

Framingham, 1861. J. C. STEWART.

REMARKS.—Yes. Transplant the vine as early as you can after the frost is out, and with as many roots as you can get. Do not mutilate the roots. Make the soil where you plant it mellow and deep—and sprinkle in some wood ashes with it.

EARLY AND DEEP SNOWS.

The snow here, Jan. 21, is in many places three feet in depth; and the roofs of weak buildings are being crushed beneath its weight. There fell

October 15	2	inches.
November	7	"
December	34½	"
January, to the 21st	20½	"
	5 feet 4 inches.	

Can any authentic record, or the "oldest inhabitant," tell when so much snow has fallen so early in the season? The heaviest fall was 18 inches on the 22d of December. The temperature of the winter has been rather mild, though on Sunday morning, 13th inst., the mercury fell to 32° below zero. RECORD.

Charlestown, N. H., Jan. 21, 1861.

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ABOUT BUGS.

The word "bug," in its *proper* signification, is applied to an insect having a hard pointed sucker, without jaws; four wings, the upper pair of which are hard and horny for that half of their length nearest the body, thin and flexible through the other half, while the lower pair are folded between the upper pair and the body, like those of a beetle. The larvæ and pupæ of this order of insects are active, and bear a close resemblance to the *imago* or perfect insect.

This word, in England, is narrowed down to contain only one species of bug, i. e., the bedbug, *Acanthia lectularia*, and in this country, with equal impropriety, extended to cover everything with six legs to sixteen; from a large and beautiful moth or butterfly, down to the wheat or Hessian fly. F. G. SANBORN.

Andover, March, 1861.

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REMEDY FOR CHOKED CATTLE.

Reading a "Remedy for Choked Cattle" on p. 552, vol. 12, of the *Farmer*, reminded me of a very simple and efficacious remedy which I have often seen tried, and have never known it to fail.

Take a few spoonfuls of cold hog's lard, and with a knife work in all the gunpowder that will well mix with it. Make the mixture into balls the size of a small hen's egg, and put one down the animal's throat. If the obstruction is not removed in two or three minutes, give another ball. One will generally be sufficient, if not the second seldom fails. Without any effort more than is performed in ejecting wind from the stomach, the potato, apple, or other obstruction, will be thrown out, and I have seen the animal take a potato thus ejected, and eat it as soon as it rolled upon the ground.

Perhaps the lard alone would answer equally as well. I hope the above will be tried when necessary, and the result reported. It is a safer remedy than removing the obstruction with a "probang." L. VARNEY.

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BREMEN GEESE.

I am desirous, Mr. Editor, to learn from any of your kind correspondents the habits of the Bremen goose as to mating, raising, &c. It has been said that in the spring they pair, and do not mingle as other domestic fowls. Is this so, and at what time? How early in the spring do they commence laying, and do they raise more than

one brood in a season? Indeed, any information as to the culture of the bird will greatly oblige A SUBSCRIBER.

DISEASES IN HORSES.

CASE OF CRAMP, OR SPASM.—I was requested, a short time ago, to visit a horse, said to be the subject of "stifle lameness." The patient, a grey gelding, aged eight years, was put up at the stable, on the evening preceding my visit, apparently in perfect health; early in the morning, ere I was called, the "feeder" observed that the horse was incapable of moving the near hind limb, and it appeared to be, as I was informed, "as stiff as a crowbar."

On making an examination of the body of the animal, he appeared to be in perfect health; yet he was unable to raise the limb, in the slightest degree, from the stable floor. The case was accordingly diagnosed as cramp of the flexors.

Treatment.—The body and lower parts of the limbs were clothed with blankets and flannel bandages, and the affected limb was diligently rubbed for half an hour with a portion of the following liniment:—Oil of Cedar, 1 ounce; Sulphuric Æther, 2 ounces; Proof Spirit, 1 pint.

In the course of a few hours after the first application, the difficulty had entirely disappeared.

The owner informed me that the horse had, on the day prior to the attack, been exposed to a cold and continuous rain storm, and probably this operated as the exciting cause of the spasm.—*American Stock Journal.*

LADIES' DEPARTMENT.

THE DAY AFTER MARRIAGE.

The departure of a son from beneath the paternal roof does not present any spectacle of desolation. Masculine life has, from infancy, an individuality and independence, an exotism, so to say, which is essentially wanting in female existence. When as on abandons his parents to create for himself a separate interest, this separation causes but little interruption in their mutual relations. A man marries, and still retains his friendships, his habits, and his filial affections. Nothing is changed in his life; it is only an additional tie. His departure is consequently a mere separation; while the departure of a young girl, to become a wife in a few hours, is a real desertion—a desertion with all its duties and feelings still fresh about it. In one word, the son is a sapling which has always grown apart from the trunk, while the daughter has, on the contrary, formed an essential portion of it, and to detach her from her place is to mutilate the tree itself. You have surrounded her youth with unspeakable tenderness—the exhaustless tenderness of your paternal and maternal hearts, and she, in return, has appeared to pour forth upon you both an equally inexhaustible gratitude; you loved her beyond all the world, and she seemed to cling to you with a proportionable affection. But one day, one ill-omened day, a man arrives invited and welcomed by yourselves, and this man of your own choice carries off to his domestic eyrie your gentle dove, far from the soft nest which your love had made for her, and to which hers had clung. On the morrow you look around you, you wait, you seek for something which you cannot find. The cage is empty; the tuneful linnet has flown; silence has succeeded to its melodious warblings; it does not come as it did only on the previous morning, fluttering its perfumed wings about your pillow, and awakening you by its soft caresses. Nothing remains but a painful calm, a painful silence, a painful void.

THE WAY THE ENGLISH BRING UP CHILDREN.

The English bring up their children very differently from the manner in which we bring up ours. They have an abundance of out-door air every day, whenever it is possible. The nursery maids are expected to take all the children out airing every day, even to infants. This custom is becoming more prevalent in this country, and should be pursued wherever it is practicable. Infants should be early accustomed to the open air. We confine them too much, and heat them too much for a vigorous growth. One of the finest features of the London parks is said to be the crowds of nursery maids with their groups of healthy children. It is so with the promenades of our large cities to a great extent, but is less common in our country towns than what it should be. In consequence of their training, English girls acquire a habit of walking that accompanies them through life, and gives them a much healthier middle life than our women enjoy. They are not fatigued with a walk of five miles, and are not ashamed to wear, when walking, thick-soled shoes, fitted for the dampness they must encounter. Half of the consumptive feebleness of our girls results from the thin shoes they wear, and the cold feet they must necessarily have. English children, especially girls, are kept in the nursery, and excluded from fashionable society and all the frivolities of dress, at the age when our girls are in the very heat of flirtation, and are thinking of nothing but fashionable life.

COOKING HOMINY.

After the hominy is well washed, instead of putting it into an open pot or kettle to boil, as is the usual practice, get a tin kettle of the size wanted, put the same into a common iron pot that will hold about one-third more, which will leave a space around the tin to be filled with water. Then put the hominy into the tin kettle with a suitable quantity of water, fill the pot pretty full of water, put the lids on the kettle and the pot, and let the hominy boil upon the stove, stirring it two or three times while boiling. By so doing, it will be found that the quality of the article will be much improved; more than half the usual work of stirring and tending will be saved, together with a large part of the work in cleaning the kettle after using, which has heretofore been the chief objection to cooking this dish. The tin kettle should be kept from touching the bottom of the pot, by means of a large wire crooked for the purpose, and laid in the bottom so as not to have the tin and iron come in contact while boiling. By this means, none burns to the kettle, and the burnt flavor, which is so noticeable in that cooked in the old fashioned way, is entirely avoided.—*Boston Cultivator.*